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THE JOURNAL *OF THE* **TENNESSEE STATE MEDICAL ASSOCIATION**

DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION OF TENNESSEE

ISSUED MONTHLY under Direction of the Trustees

PERRY BROMBERG, M. D., Editor and Sec'y

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VOLUME V

NASHVILLE, TENNESSEE, MAY, 1912

NUMBER 1

PRESIDENT'S ADDRESS

"A BRIEF REVIEW OF MEDICAL PROGRESS."

C. J. BROYLES, M.D., JOHNSON CITY.

The poems of Homer portray a development of the healing art that shows a history even then. There was at that time an organized profession, or at least a system that had required ages to bring about. Many centuries before, Moses had written, "These are the beasts that ye shall eat that are on the earth," with various other rules of great hygienic value and judgment. Joseph commanded his physicians to embalm his body, showing that Egypt had at that time men who practiced the healing art, and that they must have had at least a rude knowledge of general anatomy. Within the last few years Assyriologists have traced Assyrio-Babylonian medicine four or five thousand years before Christ, and shown that twenty-two hundred years before the Christian era medical laws were codified, probably being the most ancient medical practice act. These laws are thought by some to have served as a model for the medical laws of Moses.

In the two sons of Aesculapius is seen what seems to be an indication of the separation of medicine and surgery, one's task being to heal injuries, the other having received from his father the gift of "recognizing what was not visible to the eye, and treating what could not be healed." At that

time medicine was not subordinated to religion as it was at a later period. The practice of surgery is as old as the human race itself, the most primitive races being able, to a degree, to stop blood, extract arrows and broken lances, set broken limbs with the use of splints, and dress wounds. The Hebrews, Greeks and Romans, Hindoos, Chinese and Egyptians and all the ancient races of mankind seem to have engaged in the effort to relieve disease and injury. The great array of instruments and varieties of bandages and splints point to an extensive surgical practice. They were familiar with the use of the magnet for extracting foreign bodies; they resorted to the lancet, leeches and cupping; amputation was sometimes done, and they controlled hemorrhage by the application of boiling oil and a pressure bandage with pitch. Abdominal dropsy and hydrocele were tapped with a trocar, and they did laparotomies for intestinal concretions, and lithotomy was practiced. Plastic operations for the restoration of the nose were included in their surgery, and also extraction of cataract was done. In obstetrics they did the Caesarian section and crushing of the foetus. These things were taught them by the physician-priests as an absolute revelation from heaven.

Prior to the time of Hippocrates, all is mixed and obscured with mythology. His life is the beginning of medical history and his teachings were accorded by his contemporaries and posterity the highest veneration.

tion. His writings show him to have been a man of the highest character and purest morality. Born of a family of priest-physicians, probably in the seventeenth generation in direct descent from Aesculapius, with its traditions and prejudices, he was the first to cast aside superstition and base the practice of medicine on the principle of inductive philosophy. His knowledge of physiology was limited and he was not able to distinguish between the various textures of the body. But he proved that observation alone is the basis of medicine, and if the course pursued by him with so much success had been diligently followed up, Grecian medicine would have obtained a degree of perfection the extent of which we can hardly estimate.

The actual science of the Hippocratic school was indeed restricted. No more than the crudest knowledge of anatomy existed, and physiology was unknown and pathology had not been conceived. The study of anatomy had been limited to the very simplest superficial observation, and to the dissection of pigs and other lower animals. The dead body was sacredly regarded, and to dissect it meant death or flight.

With the coming of the Alexandrian library began the period of anatomical study. Herophilus is thought to have been the first one who ever systematically dissected the human body, and his name is given to the common meeting place of the sinuses of the occiput, indicating a very respectable advance in anatomy.

Galen was the most learned and cultured of the disciples of the Hippocratic doctrine. His knowledge of anatomy was probably more extensive and nearly correct than any one's who had preceded him. He came near being the discoverer of the circulation of the blood, but his reverence for authority and devotion to precedent, with a lack of ability for observation, denied him knowledge that would have advanced the profession many generations, possibly centuries. Had he made that momentous discovery his closing days might have witnessed the things surgical that transpired ages later and the long dark night of super-

stition might have been an era of growing knowledge. Harvey might have done the work of Jones Quain and the world been spared the humiliation of much of the dark ages, for "medical progress has ever been the index to human advancement." Alexander, the Lydian, who wrote extensively on purely medical lines, might have had less faith in "amulets and talismans" and have investigated the favorite studies of Richard Bright, and he in turn could have told us how to relieve ourselves of high blood pressure and the vicious chain of cardio-vascular disorders. But he preferred to strut in vanity and self-glorying. To believe these fancied advances possible requires quite an effort of even a very credulous mind, but 'tis pleasant to think sometimes of what might have been.

After him medical science retrograded, falling into the hands of the priests, and for more than four centuries there were scarcely more than a half dozen names of great reputation. But these men kept alive the fires which were fast dying out by the indolence of the profession, the priestly alliance and the absolute subservience to medical tradition and authority, either of which is fatal to progress, this decadence first overtaking the Grecians and Alexandrians and then the Romans and the rest of the world. Moreover, the practice of dissection was abandoned, the early Christians evincing more horror of the dead body than their pagan ancestors, and the clergy frowned on the dissection of the human body, preferring to see the living torn asunder for violation of their mandates.

When the ensign fell from the hands of the Grecians, Romans and Egyptians, the Arabians became the custodians of the art, and for more than seven centuries their schools gave a good deal of attention to medical science, and for a century of that time they were about the sole nation giving it nurture. At the beginning of the fifteenth century Arabic literature still led the other nations in medicine, the Italians easily ranking second. It was Italy that held aloft the taper that lighted

the world during the four or five centuries preceding the eighteenth, and because of the surrounding darkness it appears to have burned all the more brilliantly. They claim to have anticipated Harvey in his discovery a half century. At this time the Arabians were overrun by the barbaric Tartars, and they lapsed into a condition almost as degraded as they were in centuries before.

In the middle of the fifteenth century the art of printing was discovered, which insured the dissemination and preservation of knowledge; the microscope was more nearly perfect; the compass had been invented, encouraging long voyages, thus developing commercial and social intercourse. The human family was awakening from its long slumber. Men became willing to believe and fearless to proclaim the vision of their own eyes, and thus to break away from the accepted dogmas of the fathers. The church had withdrawn its interdiction and the Italian universities were dissecting publicly. This practice became general with the schools of other countries, and from this age man's face was turned to the front.

In the early part of the sixteenth century was born Vesalius. He proved to be a man of great force of character, accepting the truth as he saw it, refusing to be bound by the writings of his predecessors, courageous and precocious, he is said to have contended with dogs and vultures for the possession of the bodies of criminals, and to have pillaged the cemeteries for his anatomical material, at the age of twenty-nine publishing the best work on anatomy that had yet appeared. And yet the process of the circulation was not discovered, though he and his pupil and co-laborer, Columbus, so nearly approached it, it is inconceivable that they could have failed.

At this period of time the habit of post-mortem examination began, and here is the genesis of pathology. The practice of medicine was done by the priests, who were prohibited on pain of excommunication from drawing blood, and naturally the practice of surgery fell into the hands of

barbers and itinerant bone-setters, ignorant and vulgar as they were. Strange to say, from this lowly source came Pare, whose name is immortal, and whose great ambition forced him to obtain an education in Paris. This barber surgeon is the first to omit the red hot iron in amputations, using ligatures. Harvey, born while Pare yet lived, discovered the circulation of the blood, was considered by his contemporaries to be demented, and lost a great part of his practice because of his doctrine, the controversy lasting more than a quarter of a century. At this day and time it is inconceivable that this great fundamental physiological truth remained so long undiscovered.

Theories and ideas must now be recast, and dogmas and superstition must give place to evidence. The separation of the priesthood from medicine had been consummated, medicine and surgery were united, and the progress of our art was assured. The natural sciences were unfolding, the power of ancient authority was broken, and the tyranny of bygone days had fled, and the disolute, mournful sixteenth century was gone. Cinchona, the drug that has proven itself so valuable, was discovered, the obstetrical forceps were invented, and medical jurisprudence was born. Publicity, the foster mother of all progress, and the uncompromising foe of narrowness and bigotry, was lending her gracious aid to the awakening, truth was emancipated, and the slavery of constituted authority was buried with the dead centuries.

Following these epoch-making events in our progress came the revolutionary conditions of religious freedom and the disappearance forever of the bigoted clerical physicians during the eighteenth century. This was the century of many great men, and during its course universities were founded and the natural sciences kept pace. The clinical thermometer was used, the art of percussion was discovered, sounds and specula were employed in diagnosis, and medicine was a high vocation, but surgeons did not yet enjoy the high social and professional esteem accorded physicians.

Though the eighteenth century is generally regarded as the golden age in medicine because of the high character of the personnel of the medical men of the day, who were broadly and liberally educated in the general sciences and fine arts, who regarded their profession as a sacred calling and not a trade, and who were held by their patients in high esteem, consequently enjoying pleasant social relations, they also had to contend with many illusory and fantastic tenets, just as we of modern times contend with fascinating and ridiculous nonsense. They had crude Mesmerism, Braidism, Brunonianism and Realism, while we have or have had our Perkinism, Hahnemanism, Eddyism, Stillism and Eclecticism. Their "isms" have been examined and analyzed, and any particles of truth they may have contained have been absorbed and are laid aside with the useless things of the earth, as is to be the fate of modern illusions.

The achievements of the last century are many and varied in worth and character, some of them not yet having taken their proper and permanent position. The progress and development have been deeply influenced by the increase of knowledge in other branches of science. It is difficult to draw the line of demarcation, and impossible to sum it in a paragraph. It was the age of enormous development in pathological anatomy and diagnosis, with a corresponding interest in physiology and comparative anatomy, chemistry, biology, botany, bacteriology and hygiene. It has enlisted the aid of the laws of physics and electricity, and acknowledges its indebtedness to the men who labor in the adjacent fields of physics and natural philosophy.

It was characterized by the publication of much scientific and medical literature, including books and periodicals, and the growth in number and character of its scientific associations, among which we are proud to see our own well toward the front. It brought into use the ophthalmoscope, the modern stethoscope, into general use the clinical thermometer, ophthalmological instruments of precision, electrical instruments, the pleximeter, the various specula,

the sphygmograph, the principle of endoscopy, and practically all the paraphernalia of modern diagnostic methods. It gave us many great men, and among them some who were willing to die, and did die, in the search of truth. It made it possible for us who live today to hear the death warrant of the pestilence that walketh in the darkness, and to say, "Thus far shalt thou go and no farther." It gave to the world anesthesia and antiseptic, the parents of modern surgery. These inappreciable gifts to our equipment should make us doubly proud, for they are of Anglo-Saxon origin, America's discovery being anesthesia, and to them together the human race owes more than tongue can tell or language estimate, and now on the threshold of the twentieth century surgery is, possibly, as nearly an exact science as it can ever be.

In giving the faintest trace of the outlines of the development and progress of medicine it would be tedious to you to hear of the long and honorable roll of the armies of men who have contributed to this development, more than is necessary to form a mere foundation and framework. The glorious names of this very wonderful and progressive century are familiar to all. It is gratifying to remember that in these latter years America is contributing her full quota to this assemblage of the great, and that in practical medicine she leads the world, and that our own Tennessee has ever been enlisted in the great cause.

Glancing backward, we remember the aphorism, "Truth is the daughter of time," and the achievements of the last few decades are not the results of those labors alone, but owe much to the empiricism and the stumbling experimentations of the fathers, and that we greatly underrate the high character of some of the learning of the long gone past. Medicine, the foster child of superstition, lingering in the twilight for too many centuries, came to us with quite a legacy of systemized knowledge. In truth the accomplishments of the medical world in the early Christian centuries and the middle ages were far greater than is generally believed. The universities were well

attended for centuries, and we pattern after them to this day. They had post-graduate courses of medicine, as well as for philosophy, theology and some of the natural sciences. They required better preliminary education than we do, and five years of medical study, and for a surgeon an extra year in anatomy. Up to within a few years we allowed any one to practice who could purchase a medicine case, regardless of his qualifications. A very important period in the history of surgery was the latter half of the thirteenth and the whole of the fourteenth century, which, relatively speaking, was almost as great as our own.

It is interesting to note the coincidences common to the great political and intellectual periods of time, and the coming of brilliant medical luminaries. In the age of Hippocrates lived Plato, Pericles, Phidias and Socrates. The Autocrat reminds us that "With the world-conquering Alexander came the world-embracing Aristotle, appropriating anatomy and physiology, among his manifold spoils of study, marching abreast of his royal pupil to greater conquests." Under the same Ptolemies who founded the Alexandrian library and museum, lived the matchless Herophilus, the great anatomist, and Erasistratus, who refused to wear the yoke of the polypharmacy of that day, diligently studying the anatomy of the brain and heart. Galen was the friend and advisor of the emperor and philosopher Marcus Aurelius, and of Lucius Verus. The conquering Arabs began their education with the study of medicine. Vesalius, who was the first with the temerity to dispute the words of Galen, Eustachius his defender, together with Fallopius were contemporaries of Luther. Harvey had Bacon both as pupil and patient, both posthumous children of the brilliant Elizabethan period. Benjamin Rush was the progeny of conditions that led to the struggle for American independence, and Lister was a son of the Victorian reign, while Virchow was contemporaneous with Bismarck.

We are now arrived at the stage of our progress wherein we are worthy of recognition as a really learned and scientific pro-

fession, and as our development continues, new duties will ever confront us and must be accepted and done, or the inevitable halt will follow. We can well afford to lay aside some of the conservatism that has characterized us in the past because of uncertainty, and become more positive in our relations with the public. The people are better educated and they are ready to listen to the candid and honest words of an enlightened profession. It is now our privilege, yes an imperative duty, that we educate the people in things pertaining to scientific, modern medicine. That taciturnity of the past, regarding our relation with the public, must give place to an intelligent and patient endeavor to enlighten the public in the great live problems that confront it. Let the world know to what extent it is debtor to our labors of the last half century; elicit its interest and sympathy in the hopes and possibilities of the future. Get it to thinking; enforce its attention. Then will society give us who are striving to better its condition, lengthen their lives, and make their beautiful globe a better place on which to live, its every aid. An enlightened people will never go wrong or remain wrong on any question of public policy.

How to bring about this very desirable interest is our immediate problem. It is the question of the day and hour. No one has more influence in his community than the family physician, especially in the rural communities. He is in every village and crossroad. Engage his interest, get him to work, proclaiming it in every intelligent household. By no means is every physician ready to engage in such a righteous undertaking. He must be first prepared for it. He who will listen to the fixed speech of the proprietary drug traveler, read his booklet and blindly prescribe his wares, and who is content to remain away from his county and other medical societies, is not ready to engage in such a sacred undertaking. We will expect much of the young men who are just beginning their work. They should be enthusiastically ready when they leave their medical universities. Thanks to the Council on Medical Educa-

tion, the unfit medical schools are being eliminated. They will go unmourned, and the coming generations of doctors will aid in this new work.

Proper methods of interesting the press bureaus and great magazines will be useful, provided it can be discreetly done. Another powerful factor in educating the public would be through the properly directed efforts of the public school teachers. Incorporate in the curricula of the public schools the compulsory study of hygiene, physiology and biology. Have the coming citizen know himself, the most important thing he can know in all his education. Have him know that good health is the essential in the building of character and morality. While he is taught the glory of his country's wars, also teach him to have pride in her victories over disease and pestilence, and to honor those who have saved and are saving the lives of his countrymen, as well as those who have saved the life of his country. With the same zeal that he is taught of war, have him learn of the subjugation of small pox and puerperal sepsis; the conquest of diphtheria by anti-toxin, the mastery of pain by anesthesia, and of Pasteur's triumphant combat with hydrophobia. Tell them the stories of the wars and the victories, and the results that can never be taken from us, the stories that should be known by all.

When this very desirable and necessary evolution shall have taken place, the widespread notion of the public that our vocation is merely a trade for the getting of gain will have passed, and the very influences that bring about that condition will carry with them other happy changes and improvements. When doctors are properly trained in their duties to the public, and in turn shall receive from the public its proper and rightful appreciation, better things are in store for both parties. When that glad day comes, it will be impossible for the "isms" to grow to any great proportion, or even to exist, for such vagaries cannot stand in the presence of truth. There will be no such thing as a creed or school of medical practice. As well speak of a

creed of mathematics or a creed of anatomy or chemistry! There can be no more than one medical science, and that seeks and records truth, and should herald it to the world.

At that time a state board of medical examiners will be a board of doctors, and the applicant for authority to practice medicine and surgery will be required to exhibit his skill at the bedside and in the laboratory and the operating room, and will not be required to exhibit a test of memory by answering the conundrums of a political examining board who could not answer each other's questions.

Our country will awaken to the necessity and advantages of a Department of Public Health, and with it will follow the candor and clear vision that will go far toward the control and eradication of the pestilence of immorality that is the cause of the venereal peril, and a knowledge of the laws of health will protect the welfare of our people. This department, with state boards of health and the cooperation of an interested and friendly people, could absolutely destroy yellow fever and malaria and wipe out those filthy, disagreeable maladies, typhoid fever and hook worm disease, and gradually reduce the mortality of tuberculosis and finally eliminate it from the catalogue of human ills.

With the coming of these will be seen the physicians of every community, laboring harmoniously together in their county societies, each contributing freely of his attainments, and wherein is begotten that admirable element of mutual esteem that is so desirable, and where one is accorded the approval of his fellow-laborers. Here is the proper place for the practical application of the doctrine that prevention is better than cure. This department of medicine has no competitors, and its intents can hardly be misconstrued. It is a field never encroached upon by the chalatanes and "isms." They are interested solely in the treatment of disease, and never in its prevention or cure. These societies should be the intermediary system between the profession and the public, and through them the public can be

awakened to the better appreciation of our high aims and intentions.

Let me remind the younger men that the profession you have entered is a noble heritage. It has been won by much toil and great privation, and on entering its portals you will commence a life of sacrifice in which your days and nights will be the patrimony of your patients. You must resign yourselves to sowing devotion, from which you must often reap ingratitude. You must renounce the sweet pleasures of the family and that repose so grateful after the fatigue of laborious occupations; you must know how to confront disappointment and danger; you must not retreat before the menaces of death, for death achieved amid the perils of your profession will cause your names to be pronounced with respect and honor.

The future of medicine depends on the interest and integrity of its votaries, coupled with the intelligent cooperation of the public. It will occupy a position of high importance. Of all the pursuits of men none will be more honored. As has been said, "Its administrations shall be more kind and its results more beneficent than philanthropy itself. It shall stand between the living and the dead, and men shall call its mission holy."

TENNESSEE STATE MEDICAL ASSOCIATION.

MINUTES OF THE SEVENTY-NINTH ANNUAL MEETING, HELD AT CHATTANOOGA, APRIL 9, 10 AND 11, 1912.

Tuesday, April 9—First Day—Morning Session.

The Association met in the Assembly Hall of Hotel Patten, and was called to order at 10:30 a.m. by Dr. James H. Atlee, Chairman of the Committee of Arrangements.

Prayer was offered by the Rev. Charles H. Myers, A.M., B.D., pastor of the First M. E. Church, Chattanooga.

INVOCATION BY DR. MYERS.

Our Heavenly Father, we bow before thee at the opening of this important society to

ask thy favor and thy blessing upon us. We thank Thee, O God, for all of the agencies and organizations that Thou art using for the advancement of civilization, for the blessing of mankind and for the bringing in of Thy Kingdom; and our hearts well up with gratitude when we think of Thy wonderful Providence that has always stirred in the hearts and minds of men a love for truth. We thank Thee, O God, that it is finding its expression in such a real way in this modern day in the spirit of science. We thank Thee for medical science. The days were when no voice was lifted in thanksgiving, the days when science and faith, so-called, were enemies. We thank Thee, Our Heavenly Father, that those days have passed and the spirit of truth is asserting itself everywhere, and those that were enemies are enemies no more, but religion as it is found in the love of Thee, and Thy love of men has expressed itself in such a wonderful way. We thank Thee that Thou art bringing out of chaos order, service out of enmity and strife and superstition and ignorance and misunderstanding. The minds and hearts of the people recognize him who loves his fellowman and gives his life in any form as a sacrifice for mankind, for the alleviation of suffering, for the enlightenment of the human mind, for the dispelling of darkness, for inculcating a love for truth as one who is truly Thy disciple.

We thank Thee, O God, for what Thou hast done for us. We pray for these physicians who heal the mind and body, who work some of them in obscurity, quietly ministering to men and women. We thank Thee that they are included as Thy disciples and as Thy servants who are acceptable to Thee. We pray, O God, therefore, that Thou wilt bless the meeting of this Medical Association of the State of Tennessee. Bless its officers. Bless the deliberations. Bless every paper that is read. Imbue love for the truth and desire to face it (for sometimes the truth is ugly and sometimes we do not love it). Let the discussions be such that they will send out these men fitter servants of the people and better able to bring in the day of light.

We pray, O God, for the people as a whole, but how slow of heart, how blind of eye, how deaf of ear, we all are. O God, awaken the people; awaken the men of wealth that they may not sit with their gold about them selfishly, but pour lavishly of their earnings for the establishment of institutions such as these physicians who are here firmly believe in and which aid them in their practice.

We pause to pray for the man who stands here and whose heart is weighed down with sorrow, a man who has had such an interest in this association. We pray, O God, for that father of his who has served this profession so long and so well, now so near, we fear, to the other side. O God, be with him and be with his son, and we pray that the sympathetic interest of every one may go out in a real way to him. Forgive us for all our sins. Walk with us through life and at last open the gateway to the Eternal Kingdom of Truth. We ask these things through and for the sake of Jesus Christ, the Man of Galilee, our Lord and Saviour. Amen.

The Hon. H. Clay Evans, Commissioner of Health and Education, Chattanooga, delivered the following

ADDRESS OF WELCOME.

Mr. President and Members of the Tennessee State Medical Association: On behalf of the City of Chattanooga, and as its Commissioner of Health and Education, I desire to extend simply a word of welcome to you gentlemen. I want you to feel that you are among your friends while here. Chattanooga is known as a convention city. We have a great many conventions, but our people recognize in your profession men who are accomplishing great benefits for the human family. I know of no profession, I know of no calling of any kind that has progressed in its endeavors and added so much to the cause of humanity as has your profession during the past twenty-five years. It has been my privilege during that time to have opportunities to witness to a considerable extent the progress in your profession, and I believe I can say it with-

out being questioned, that you have been great benefactors, your profession has, the men you work with and cooperate with, in developing medical science to the extent of bringing great benefits to our nation, and the world knows, too, what you have accomplished in Porto Rico, in Cuba, and in the Panama Canal Zone. When the French Republic undertook to build that great canal from the Atlantic to the Pacific, one of the great difficulties they had was getting men to work there because of health conditions. Thousands and thousands of their employes died, and yet they made no effort to take there any except those that seemed to be acclimated. Their employes were almost entirely from Jamaica and the West Indies, the laboring classes, and yet the world knows what a terrible time the French company had in endeavoring to build that canal and finally failed; and yet, when our republic took on that job and put to the front some of the best medical scientists of our Nation, you know the result. We are looking forward now to having that as one of our favorite health resorts in the future. The conditions there have been so changed that they have but little trouble with the old tropical diseases they had to contend with, and so unsuccessfully, but our people have so improved the conditions there they have but little trouble with them. So in Cuba. So in Porto Rico. Our people go to Cuba without any fear. The remarkable changes and conditions that were brought about by our engineers in cooperating with the medical scientists of our Nation has produced great results in Cuba.

As your Chairman has said, I am at present the Commissioner of the Department of Health in this city. I am a crank on the subject of vital statistics, and I think it is as good an opportunity as I will get to bore you a few minutes on that line. I want your cooperation. I want your efforts through the Legislature of the State of Tennessee that we may have laws, and one of the great difficulties I find is that we have so many laws that are not enforced. But I have seen this vital statistics system carried out in other countries. I occupied

a position, Mr. Chairman, at one time when I knew full well the unfortunate condition our country is in by reason of a lack of vital statistics that we can depend upon with reference to marriage, births and deaths. We are great on the improvement of the animal kingdom. We think nothing about paying five or six thousand dollars for a fine bull in order to improve the condition of the cattle. The same with horses. It is the same with hogs, but we let the human family run at large. Your son or your daughter can step out and secure a license any time during twenty-four hours almost, and go off and get married secretly. This ought not to be. You know how it is in other countries. Take it in Great Britain. They have to have the banns announced for three consecutive Sundays in church. It is the means of putting both families that are interested on notice and on guard, and Great Britain has the least restrictions of any of our foreign countries. I have seen very often Americans going over from France because of the reasonable restrictions in England; they go over to England to get married by living there two or three weeks. In Germany they go further, requiring the groom to give bonds to the support of the bride. You go down in Italy you find a large bulletin board on the Municipal Building with engagements ahead. We have nothing of that kind in this country, hence often there is difficulty in proving legal marriage.

I have been endeavoring since I came in as Commissioner of Health, to collect statistics with reference to births and deaths. I believe that we have that matter now pretty well in hand. I have an agreement with the cemeteries that they will not bury any body each month without they send in their burial permits, so that I can check them up. The railroads will not ship bodies without they have a proper certificate to transport the body—simply a compliance with the law.

We have a great colored population here. Our city limits are somewhat restricted. I had 44,604 inhabitants within its borders. Our city limits are somewhat limited. I think the larger portion of our city is outside of the city, you might say; we have

only had one change in the city boundaries since the unpleasantness; since the war between the states we have taken in one ward. But of this practically 45,000 population, 30,000 are whites and 15,000 colored, the proportion being of whites two to one colored. I find during the past three months in checking up that we have had among the colored population a much higher death rate. Proportionately we should have two deaths among the whites to one among the colored, according to population, but by reason of the poor housing, by reason of the habits and bad whiskey the colored people will drink instead of good, there is a greater mortality among them. We have 30,000 white people and 15,000 colored people to deal with. During the past three months there were 131 deaths among the white people in the city and 170 among the colored people, so this class of our people, as you see, need better housing and better care than possibly they get, and with all the efforts we can make through our home medical society, and I am going to say right here, and I do not believe Dr. Atlee will correct me in that, Chattanooga is proud of the medical fraternity.

I am in a position to keep tab on them somewhat, and I say to you that I have been surprised with the results in this city during the past twelve months with reference to infectious, contagious and communicable diseases, such as diphtheria, scarlet fever and tuberculosis. The latter disease you have not yet perfectly controlled, but we have had several cases of smallpox, and we have not had a single case of death from diphtheria, from scarlet fever, or from smallpox in twelve months in this city. I think that is a good record. I believe in the near future you gentlemen, with your progressive methods in the science of medicine and surgery, are going to be masters absolutely of the disease known as typhoid fever. I believe all this ought to be mentioned here.

We have near here a military post. The Eleventh Cavalry is stationed there now, and I trust every one of you physicians from outside of the city will visit that place, both

the military park and the military post. As you doubtless know, a year ago our Eleventh Cavalry was sent to the frontier of Mexico when the trouble was on there. Colonel Parker, commanding the regiment, took up the idea of vaccinating against typhoid fever. He believed in it so effectually, Mr. Chairman, that he insisted upon every member of his regiment being vaccinated. He found a lot of men who would not be vaccinated, but a large majority of the men were willing to submit to it. I insist upon the vaccination of all school children. We started in last year by establishing a rule that all school children shall be vaccinated before the time of the school against smallpox. Yet, shortly after the announcement was made in the newspapers, I received anonymous letters. These letters must have been written by men, as I hardly think there are any women in the world so cowardly as to write such letters. If there is anything I despise it is an anonymous letter. When Colonel Parker undertook to have the Eleventh Cavalry vaccinated, as I have said, some of them objected. He said, "All right." He instructed the commander of each company not to allow the men who were unvaccinated privileges outside of the camp; that there was typhoid fever prevalent and the men must be vaccinated if they wanted to go outside the garrison limits. The consequence was that, in order to get privileges outside of the camp, all of the men were finally vaccinated. That regiment went to the frontier of Texas, and they were absolutely immune from typhoid, while other companies had from 10 to 15 or 20 per cent of typhoid fever cases and a good many deaths in the regiment. I believe in the near future you gentlemen, as you progress in this line, will be vaccinating against typhoid. I believe in it. Your profession has done much good. You have advanced so rapidly in medicine and in surgery that I am ready to believe almost anything you may say. I take it, if a man gets hurt in the future, instead of dying of heart disease, you will relieve him by removing his heart and save his life. Now, if a man re-

ceives a wound of the heart, you stitch it up and save him.

This is a beautiful day, and I know you want to get out and enjoy the sunshine and enjoy the historic interests about this city, and we are proud of the historic interests surrounding our little city that is situated between the mountains. We were historic before the war between the states, but we have added to it, as I heard a gentleman once say in a great National gathering, in speaking of Chattanooga as a convention city. He said: "Gentlemen, if you are not satisfied with the hotel accommodations and with the hall accommodations for the assembling of a great National representative convention, we will promise you that we will build a hall there by stretching steel girders from Lookout Mountain to Missionary Ridge and roof in the whole valley." (Applause.)

As I have said, we are proud of the historic interests and surroundings of this city. We want you to get as much leisure as you can outside of your duties to see what we have got. We have a progressive city. We had an increase in population within the restricted limits I have referred to in the last decade of 47 per cent. There are few cities that have done that in the last decade. Gentlemen, I wish you success in your gathering. I want you to feel that you are among your friends here, and on behalf of the city government, on behalf of the good people of Chattanooga, I bid you welcome. (Applause.)

ADDRESS OF WELCOME ON BEHALF OF THE
CHATTANOOGA ACADEMY OF MEDICINE
AND HAMILTON COUNTY MEDICAL SOCIETY.

BY DR. RAYMOND WALLACE, CHATTANOOGA.

Mr. President and Members: As Commissioner Evans has said, we are proud of the medical profession of Chattanooga. I cannot refrain from calling attention to a very significant fact, and it is this, that we are exceedingly proud of our Commissioner of Health of the City of Chattanooga. (Applause.) You doubtless remember the fact that Commissioner Evans has served this

Nation as the greatest Commissioner of Pensions that the United States has ever known. He has served this Nation as Consul General to London, England, in a most admirable manner, and is now again in private life, and because of the splendid citizenship and loyalty he has been willing to accept the position of Commissioner of Health in his own home city. This is the highest type of citizenship we can imagine, and I think it is a citizenship to which we ought to pay the highest tribute.

We are glad to see every mother's son of you. This association meets here as a matter of rotation. Sometimes societies meet in a city where they are not particularly welcome, where it is a matter of rotation, but I want to assure you I know absolutely every single brother of the medical society of Chattanooga and of the Chattanooga Academy of Medicine and the Hamilton County Medical Society is glad you are here, and we are going to show you while you are here that we are glad you are here. We are glad to see Perry Bromberg, Bill Litterer, Jere Crook. We are happy you are here, and we shall show you that we are glad you are here, and this hearty welcome will go on for three days while you are here.

The important part of a meeting like this is the strong program, and I believe it is going to be the best in the history of the State Medical Association. I have no fear about it being an eminent success. All the work in connection with this program has been done in the last few weeks by the Arrangements Committee. We know you are going to be perfectly satisfied. We want you to feel that you can make yourselves at home, and you are perfectly welcome to our city and to our homes, and on behalf of the Chattanooga Academy of Medicine and of the Hamilton County Medical Society, I want to formally and informally welcome you. (Applause.)

RESPONSE TO THE ADDRESSES OF WELCOME.

BY DR. A. B. COOKE, OF NASHVILLE.

Mr. President and Gentlemen: After the brilliant and eloquent words of welcome to

which we have listened, it would require the tongue of a Demosthenes to make an adequate response.

We are glad to be in Chattanooga again. We rejoice in the wonderful prosperity and progress of this fair city. We are all proud of the high character and personnel of the Chattanooga profession who have contributed their full quota to the city's reputation. I am reminded here, in passing, that Chattanooga's reputation for hospitality is not confined to the limits of the city. Away back, when the majority of those who are present were still infants in arms, if present at all in the world, tradition has it that the reception accorded a certain group of visitors to this immediate vicinity was so enthusiastically warm that they and their descendants are talking about it even yet. (Laughter and applause.)

Mr. Chairman, this meeting is one of peculiar significance to me personally. Sixteen years ago today, when I was only six months a resident of the State of Tennessee, I attended my first meeting of the State Medical Association, and became a member of it in this city. It has met here only once since that time. In 1896, the date of the meeting to which I refer, the profession in Tennessee was poorly organized, with a membership on its rolls of less than four hundred. Today we have more than fifteen hundred members. The most significant recollection I retain of that meeting is certain recommendations which were made by the presiding officer, Dr. G. C. Savage, of Nashville. Among these recommendations were three to which I desire to call attention very briefly. The first of these referred to the establishment of a state medical journal, to the desirability and the necessity of it. When you consider our present State journal you can see what a good prophet he was. The second recommendation was that the county medical society should be made the unit of organization and membership therein necessary to entrance into the State medical association. At that time there were perhaps not more than a dozen or fifteen organized county societies in the entire State. Today there

are more than sixty. A third recommendation was that the business affairs of the society should be left in the hands of delegates so as not to conflict in any way with the scientific work of the body. The wisdom of that suggestion has been verified at every annual meeting. Thus the scheme of reorganization adopted by the American Medical Association in 1902 was anticipated by more than six years by a member of the Tennessee Medical Association, at least as a desirable policy.

Not to detain you longer, I wish merely to say that the most significant thing in the life of America today is the remarkable public awakening on health matters. This, I believe, we all concede. It was a source of infinite pleasure, I am sure, to each member present to hear the eloquent and flattering words of the distinguished Commissioner of Health of Chattanooga along that line. What the results are going to be, what the benefits that are going to accrue from this awakening, we can hardly estimate, but we can multiply them indefinitely if we will stand together in harmony and in brotherly accord. Let us at this meeting, then, catch the vision of the larger possibilities and consecrate our efforts anew to the pursuit of noble ideals. We are glad to meet in Chattanooga again. (Applause.)

At the conclusion of the response to the address of welcome, Dr. Atlee turned over the meeting to the President, Dr. Broyles.

The reading of papers was begun.

Dr. William St. John, Bristol, read a paper entitled, "A Research on Heredity," which was discussed by Drs. Farmer, McCabe, MacQuillan, Bosworth, Dye, and Glenn.

Dr. W. F. Glenn, Nashville, read a paper entitled "Management of Syphilis."

This paper was discussed by Drs. St. John, E. T. Newell, Crook, Litterer, McCabe, Anderson, Fox, Brandau, Bromberg, and in closing by the essayist.

On motion, the association adjourned until 2 p.m.

First Day—Afternoon Session.

The association reassembled at 2 p.m.,

and was called to order by Vice-President Dr. James H. Atlee.

Dr. W. K. Vance, Bristol, read a paper on the "Etiology of Glycosuria."

Discussed by Drs. Litterer and Breeding.

Dr. C. B. Wiley, Chattanooga, read a paper on "Surgery of the Tonsil as Related to Chronic Disease."

Dr. C. B. Jones, Knoxville, followed with a paper entitled "The Tonsils."

These two papers were discussed together by Drs. Ellett, Price, Dulaney, Litterer, and the discussion closed by Drs. Wiley and Jones.

Dr. Raymond Wallace, Chattanooga, read a paper entitled "The Traumatic Neuroses Due to Actual or Alleged Injury, from a Medico-Legal Standpoint."

This paper was discussed by Drs. Crook, Malone, E. T. Newell, Dye, Miller, and the discussion closed by Dr. Wallace.

Dr. Battle Malone, Memphis, read a paper on "Perforation of the Gall Bladder, with Report of Cases."

Discussed by Dr. Bryan, and in closing by the author of the paper.

Dr. Henry W. Cheney, Chattanooga, read a paper entitled "The Consideration of Some Hemolytic Factors in Sub-Tropical Anemia."

Discussed by Drs. Breeding, Stiles, and in closing by Dr. Cheney.

On motion, the Association adjourned until 8 p.m.

First Day—Evening Session.

The Association reassembled at 8 p.m., and was called to order by the President.

Vice-President Dr. W. J. Breeding took the chair and President C. J. Broyles delivered his address. He selected for his subject "A Brief Review of Medical Progress."

Dr. Charles W. Stiles, Washington, D. C., followed with an address entitled "A Cold-Blooded Zoological Inquiry Into American Patriotism."

Dr. John A. Witherspoon, Nashville, delivered an address on "Preventive Medicine," after which the Association adjourned until 9 a.m., Wednesday.

April 10—Second Day—Morning Session.

The Association met at 9 a.m., and was called to order by the President.

Dr. M. A. Blanton, Baileyton, read a paper entitled "Placenta Previa, with report of a case."

The paper was discussed by Drs. McCampbell, Cheney, Long, Boyd, Smith, and in closing by the essayist.

The Secretary read a letter from Dr. J. A. Crisler, of Memphis, regretting his inability to attend the meeting.

Dr. L. Webster Fox, of Philadelphia, delivered a special address by invitation entitled "The Sliding Flap Operation for Cataract; the Elliott Operation for Glaucoma."

The address was discussed by Drs. Savage, Wood, Price, and in closing by Dr. Fox.

On motion of Dr. Dulaney, a vote of thanks was extended to Dr. Fox for his very interesting and instructive address.

Dr. C. N. Cowden, Nashville, read a paper entitled "Hernia."

The paper was discussed by Drs. DeWitt, E. T. Newell, Crook, Barr, and in closing by Dr. Cowden.

Dr. James H. Atlee, Chattanooga, read a paper entitled "Acute Anterior Poliomyelitis."

Discussed by Drs. Christenberry, Krauss, Long, and in closing by Dr. Atlee.

On motion, the Association adjourned until 2 p.m.

Second Day—Afternoon Session.

The Association reassembled at 2:30 p.m., and was called to order by Vice-President J. D. Brewer.

The first order was a symposium on "Pellagra."

Dr. William Krauss, Memphis, read a paper entitled "The Etiology and Pathology of Pellagra."

Dr. J. M. King, Nashville, spoke on the "Symptoms and Diagnosis of the Disease," in the absence of Dr. Louis Leroy, who was to have discussed this subject, and then read a paper on "Treatment of Pellagra."

The symposium was discussed by Drs. Christenberry, Litterer, Long, and in closing by Drs. Krauss and King.

Dr. Wm. M. McCabe, Nashville, read a paper entitled "Treatment of Peritoneal Infections."

This paper was discussed by Drs. Haggard, Bryan, and in closing by the author of the paper.

Dr. S. R. Miller, Knoxville, read a paper entitled "The Treatment of Compound Fractures of Long Bones."

Dr. Robert Caldwell, Nashville, read a paper on "The Treatment of Fractures."

These papers were discussed by Dr. Duncan Eve, Jr.

Dr. William Litterer, Nashville, read a paper entitled "Experimental Anaphylaxis."

The paper was discussed by Drs. Krauss, Hill, Wallace, King, and in closing by the essayist.

On motion, the Association adjourned until 8 p.m.

Second Day—Evening Session.

The Association reassembled at 8:30 p.m. and was called to order by the President.

Dr. Jabez N. Jackson, Kansas City, Mo., delivered a special address (by invitation) entitled "Membranous Pericolitis."

The address was discussed by Dr. Witherpoon, who moved that a rising vote of thanks be extended to Dr. Jackson for his excellent address, which motion was duly seconded by several members, and unanimously carried.

Dr. William D. Haggard moved that Dr. Jabez N. Jackson, Kansas City, Mo., and Dr. L. Webster Fox, Philadelphia, be made honorary members of the Tennessee State Medical Association.

Motion seconded and unanimously carried.

Dr. W. A. Bryan, Nashville, read a paper entitled "Laewens Method of Anesthesia."

Dr. C. P. Fox, Greenville, read a paper on "Lithopedion; Report of Operation, and Exhibition of Specimen."

On motion, the Association adjourned until 9 a.m., Thursday.

Thursday, April 11—Third Day—Morning Session.

The Association met at 9:15 a.m., and was called to order by the President.

Dr. L. L. Sheddan, Knoxville, read a paper entitled "The Present Status of Brain Surgery," with report of cases.

Discussed by Dr. Black.

Dr. J. Hugh Carter, Memphis, read a paper entitled "A Report of 100 Cases of Abdominal Section."

Discussed by Drs. Haggard, Black, Burch, Livermore, Barr, and in closing by the author of the paper.

Dr. Walter Dotson, Gallatin, read a paper entitled "The Treatment of Earache."

Discussed by Dr. Price.

At this juncture, the Secretary read the report of the Nominating Committee. (See proceedings of the House of Delegates.)

Dr. George H. Price moved the adoption of the report of the House of Delegates by striking out the time of meeting.

Motion seconded.

After discussion, which was participated in by Drs. Pettey, Price, Black, Dr. West made the point of order that the general meeting may, by a two-thirds vote, order a general referendum upon any question that has been before the House of Delegates.

The Chair ruled that the point of order was well taken.

The President said he would entertain a motion to recall that part of the report.

Dr. Price accordingly moved that that part of the report of the House of Delegates changing the time of meeting be recalled.

Motion seconded and carried.

Dr. Pettey said a mere recall did not finish the proposition. The recall was for the purpose of referring the matter to the membership at large.

This body had no right to overrule the House of Delegates.

The Chair ruled that Dr. Petteys point of order was not well taken.

Dr. Price moved that "for this particular clause in the report we substitute the original time of meeting as specified in the By-Laws of the Association."

Seconded.

Dr. Haggard moved as an amendment

that the time of meeting be fixed as the third Tuesday in April.

Seconded.

Dr. Price expressed himself as opposed to the amendment.

The amendment was put and carried.

Dr. Price thereupon moved a reconsideration of the date of meeting.

Motion seconded and carried.

Dr. Frank Trester Smith moved that the amendment be put into effect next year.

This motion was seconded and unanimously carried.

Dr. Price then renewed his motion to adopt the report of the House of Delegates as amended, which motion was duly seconded and carried.

Dr. Gillespie called attention to the fact that Dr. Black, of Memphis, had been elected a Vice-President from Tennessee contrary to the law.

It was moved and seconded that that part of the report of the House of Delegates be recalled.

Carried.

Dr. Pettey nominated Dr. George R. Livermore, of Memphis, for Vice-President from West Tennessee.

Motion seconded and carried.

Dr. Haggard moved that the newly-elected President be escorted to the platform.

Motion seconded and carried.

The President appointed Drs. E. T. Newell and William D. Haggard to escort the President-elect to the platform.

President Broyles, in introducing his successor, said: "I desire to say to you and to him that if he receives the same uniformly courteous and genial treatment both from the general Association and the very efficient officers, especially the Secretary and official stenographer, his administration will be one continuous round of pleasure, and such treatment I bespeak for my successor, Dr. Dulaney, of Dyersburg." (Applause.)

Dr. Dulaney, in accepting the Presidency, said:

Mr. Chairman and Gentlemen of the Tennessee State Medical Association: I feel very grateful for the compliment paid me by this Association in selecting me as its

President. I feel that it is more of a compliment to my district than to myself. As you will remember, the Ninth Congressional District has not at the present time an ex-President of this Association. Dr. Happel, of Trenton, was the only President selected from my district, and you know how well he served you in this Association, and as you have entrusted this office to me, a comparatively young member of the Association, I wish to thank you all very kindly for the compliment paid my district. I will make my speech at this time very brief, but will renew it every day for 365 days in the interest of this association. (Applause.)

Dr. M. M. Hannum, Maryville, read a paper entitled "The Short and Sensitive Utero-Sacral Ligament; Its Significance and Treatment."

The paper was discussed by Drs. Haggard, Burch, and E. T. Newell.

Dr. E. M. Sanders, Nashville, read a paper entitled "Post-Operative Uremia." Discussed by Drs. Krauss, Burch, Barr, Livermore, E. T. Newell, Black, and in closing by the essayist.

Dr. William Krauss offered the following:

Resolved, That the Tennessee State Medical Association owes a debt of gratitude to the profession of Chattanooga for the very magnificent and lavish manner in which we have been entertained at this meeting, and that we express our thanks by a rising vote.

Motion seconded and unanimously adopted.

Dr. W. Scott Farmer, of Cookeville, read a paper entitled "A Plea for Larger Doses of Antitoxin in Laryngeal Diphtheria."

Discussed by Drs. Hill, Smith, Williams, and the discussion closed by the author of the paper.

Dr. William D. Haggard, Nashville, read a paper entitled "The Surgical Management of Exophthalmic Goiter."

Discussed by Drs. E. D. Newell and Black.

On motion, the remainder of the papers on the program were read by title and ordered published in the proceedings.

There being no further business to come

before the meeting, on motion, the Association adjourned *sine die*.

MEETING OF THE HOUSE OF DELEGATES.

Tuesday, April 9—Afternoon Session.

The meeting was called to order at 2:15 p.m. by President Broyles.

It was suggested that the roll of delegates and alternate delegates be read, but as no list was at hand, the reading was dispensed with.

President Broyles then asked what order of business was to come before the meeting, that as he had no printed rules of order, members would please present whatever business they had.

Dr. Bilbro suggested that the minutes of the last meeting be read, in order to see if any changes were to be made. It was moved and seconded that the reading of the minutes be passed, and this was so ordered.

Dr. Witherspoon: I would suggest that the Chair have the Secretary make a statement of any matters of import that have been carried over.

Secretary Bromberg: The matters relative to the continuation of the Journal and Transactions have not been disposed of, having been carried over from last year.

Dr. Wm. Litterer: I suggest that 2 o'clock Wednesday be fixed for consideration of these matters, as well as the changes in the Constitution and By-Laws, and that it be a special order of business for that session.

President Broyles: Make your suggestion in the form of a motion, Doctor, and I will put it before the House.

Dr. Litterer did so, and the motion carried.

President Broyles then asked for the report of the Secretary, and Secretary Bromberg read the following:

SECRETARY'S REPORT, 1911-1912.

To the Officers and Members of the Tennessee State Medical Association:

MR. PRESIDENT AND GENTLEMEN:

Your Secretary begs leave to submit herewith his report for the year which closes with this meeting,

and to express his gratitude to President Broyles, Treasurer Bilbro, Vice-President Atlee and the many efficient County Secretaries for the very valuable assistance which they have rendered, and without whose encouragement and help the work which we hesitatingly undertook could never have been accomplished.

In assuming the duties of this office it was our prime endeavor to familiarize ourselves with conditions in the various county organizations upon which the State Association is dependent. Without attempting to detail conditions as we found them, it will suffice to say that almost every county presented one or more of the following defects:

1. Indifferent secretaries.
2. Imperfect organization.
3. Absence of interest in meetings.
4. Lack of harmony between members.

Discussing each under its separate heading, we beg to remind you that the County Secretary is, by virtue of his position, the life and soul of the society. If he is full of enthusiasm and does his full duty, the organization will be found a live one, the members regular in their attendance, the program arranged always interesting, and the essayists always on hand; if he is content to simply send out notices of the meetings and make brief notes of the proceedings, the organization which he represents will either live in spite of him or the members soon suffer from ennui, cease to attend, and the membership falls off from year to year until eventually that county drops out of the State organization, and it is with the greatest difficulty that it can be reorganized, for the members have already suffered one disappointment and fail to recognize their once potential energy. Realizing the above to be the truth, this office undertook to stimulate the necessary degree of enthusiasm into the various County Secretaries. Letters were written to all of them detailing these conditions and advising with them, offering suggestions which we felt would fit particular conditions, and urged especially that they adopt a plan of inviting men from the cities or from adjoining counties to read papers and discuss subjects with them; urging also, in many instances, that social features be included in the program, and, in our opinion, this feature is much neglected in the smaller as well as the larger county organizations. Our efforts in many instances were graciously accepted and were put into practice, with most excellent and beneficial results; in many instances, however, the Secretaries were not even courteous enough to give our communications respectful reply. We would in this report offer no reflection upon those Secretaries who have been exceedingly capable and have demonstrated their fitness by showing as complete a paid-up membership as is possible in their respective counties, who have always arranged for essayists and made it their business to see that the paper would be presented, who have been prompt in their reports to the State Society, and who have always given respectful answers to correspondence. We take pleasure in com-

mending these, for they have always evidenced the greatest possible interest in their local body and in the State Association.

The second classification—imperfect organization—largely depends upon the Secretary, but it should not be expected that he is to carry all the responsibility alone. It is his duty to arrange attractive meetings, etc., but every member of a County Society should feel it his personal duty to his local society and to his State organization to invite, and shame if necessary, his fellow-practitioner into the County Society, that he might profit by intercourse with his fellows. We can understand how difficult it is in small counties, where the profession are widely separated and only four or five exist in a radius of twenty miles or more, to maintain any semblance of an organization, but there are counties in the State, with thirty or more good doctors and towns of twenty-five hundred to four thousand inhabitants, where no society exists. We are just in receipt of the following letter from the Secretary of Carroll County, which is self-explanatory:

"DEAR DOCTOR—We have no county organization in Carroll County. We have not had a meeting since 1908. I have been collecting the dues of those that would pay every year and sending them in to Dr. Bilbro, but can't do it any more. Respectfully,

"G. C. BRYANT, *Secretary.*"

McKenzie, the county seat of this county, has thirteen doctors—surely enough to maintain an interesting and highly profitable organization.

These conditions apply to most every county in the State. Davidson, Shelby and Knox Counties have less than 50 per cent of the profession represented in their organizations, and while the smaller counties are not perfectly organized, they are relatively better represented than the larger ones. In an effort to improve this condition we undertook to organize a few counties through our influences with personal friends. We sent letters to every physician in several selected counties not represented in their local society and urged them to join, also sending a copy of the JOURNAL to them, and in this way succeeded in increasing the State membership from eleven hundred and twenty-five to thirteen hundred.

Since the directory shows more than three thousand physicians in Tennessee, we do not believe that our membership represents all who should be with us.

Under the third head—absence of interest—we would say the prime reason is to be found with the essayists. The subjects selected, in many instances, are but text-book reviews. Personal observation and personal deductions, which are so entrancing in any essay, are absent in part or wholly wanting, and the result is an essay which everyone knows the author incapable of writing. We fully appreciate the lack of opportunity for personal investigation of a highly scientific nature, but deplore the growing tendency to depart from originality, and would urge that members make strenuous efforts to be themselves. The condition just noted is probably the one most potent in causing

dissatisfaction amongst those members who do make an earnest effort to present something worth while, but they, after all, are the life and sinew of the body, and they should feel it their duty to help the weaker brother by liberally discussing his paper and lending force and zest to the meeting by their presence. If the really better and more capable men do not attend because they feel that they can't learn, then they should be charitable enough to attend in the capacity of teachers, and, by lending their personality, stimulate interest. This particular phase we have been unable to meet, and have made no effort to interfere in any county known to have such conditions. We would respectfully direct the attention of our Councillors to Blount County, with Maryville as its county seat, which, by personal effort, we have recently reorganized, and ask them to see if something can't be done to stimulate conditions there.

Under the fourth heading—lack of harmony—it is, indeed, a great misfortune that ours, of all professions, should harbor so many jealousies. We are in receipt of the following communication, which is self-explanatory:

"DEAR DOCTOR—I have today mailed check to Dr. Billbro, dues for names on the accompanying list.

"As anticipated in a letter to you recently, the question of non-attending members has caused some discord in our society. So far these men refuse to affiliate so long as we accept as members some who have been negligent. I feel we have done the right thing in trying to continue, even though we meet with opposition. This action was taken on your advisory letter of recent date. You will notice that the President and Vice-President particularly have refused to come in, and I have understood that they propose to hold an extra session for the purpose of reorganizing. This, of course, would leave out those of us whose names are herewith reported. As already stated, we feel that in accepting the dues for Dr. E. particularly that we have complied with the rules of the State Association, as the only charge was non-attendance. Would it not be entirely legal for us to proceed as we are and at the next meeting elect a new President and Vice-President in case the old officers do not reconsider and send in their dues? Kindly advise me at once. Respectfully,
J. R. B., *Secretary.*"

We are in full sympathy with those who feel that the non-attending member is no credit to his profession, but would urge toleration. Persuade them to attend, and, when once they come, make your meetings so attractive and pleasant for them that they will be induced to come again. We know of no other way to meet this condition, but respectfully refer this to the wisdom of the Councillors.

We have deemed it wise in making our report to dwell upon these several conditions rather at greater length than is usually customary in a Secretary's report, but desire to put on record observations which may be of profit to our successors and ultimately of aid to the State Association.

We have made every reasonable effort to calm local

disturbances where we thought such advice would be accepted.

We have strenuously endeavored to organize counties both by mail, by personal interviews, through Councillors, and with much trouble had arranged an itinerary for Dr. McCormack, which, unfortunately, never materialized. Our efforts have been only partially successful. Six counties have been reorganized, and one new county has been added to the list of organized counties, but thirty-four remain yet to be organized. Many of these we can never hope to get, for they are situated in mountainous districts and have only six or eight doctors, who are not interested in progressive medicine, and there is no way to arouse their interest. Others can be thoroughly organized and much good be done if the Councillors will feel the responsibility of their positions as we have urged upon the Secretaries.

It would obviously be impossible to incorporate in this report the many things which have come to our notice and which have required our attention, but we have at all times endeavored to give a courteous reply to all correspondence and to conduct the office in a manner which, in our judgment, would place the State organization in the attitude of the keystone in the arch of organized medicine.

THE JOURNAL.

Believing that much dissatisfaction with the Journal, formerly published, existed, and especially noting that this dissatisfaction had eventually reached the point where the House of Delegates stood almost equally divided on the question of discontinuing same, we deemed it wise to make some radical changes; consequently we undertook to secure sufficient advertising to justify enlarging the Journal to its present proportions. We are pleased to append hereto an itemized statement of cost and of receipts for the Journal for the past twelve months, which, if compared to the cost of previous volumes, will be seen to approximate the cost for publishing the 1911 series. In order that you may have a working basis for your consideration of the relative cost of producing the Journal alone, transactions alone, or Journal and transactions, I am taking the liberty to give the details of the cost of these several plans as shown by experience in the past:

For printing and binding transactions alone:	
1,200 copies of 1908 Journal.....	\$ 884 60
Expressage on same	109 46

Total cost to society	\$ 994 06
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(Above does not include Secretary's salary or any other expense.)

For printing and publishing Journal for 1910-11:	
Including office expense and Secretary's salary	\$2,367 25
From which deduct receipts for advertising..	402 80

Total cost to society	\$1,964 45
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For printing and publishing Journal for 1911-12:	
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Twelve monthly issues, paid by Dr. Bilbro, Treasurer, printing	\$2,828 07
Office expense complete, including Secre- tary's salary, from advertising receipts....	1,886 99
	<hr/>
	\$4,715 06
Deduct cost of transactions	420 00
	<hr/>
	\$4,295 06
Deduct total amount of cash received from all sources	1,992 84
	<hr/>
	\$2,302 22
Deduct accounts on books considered good, approximately	400 00
	<hr/>
Total cost of 1911-12 Journal to society....	\$1,902 22

We beg to direct your attention to an item of printing, which will be found in the Treasurer's report, which covers not only the cost of printing the Journal, but also included fifteen hundred extra copies which were ordered by the House of Delegates at the Nashville meeting, April, 1911, to be stored away and bound into transactions at the end of the year. These additional copies have cost so far \$35.00 per month, or \$420.00 for printing them, and a conservative estimate of the cost of binding and mailing them will be an additional 25 cents each for fifteen hundred copies, or \$375.00. In our opinion, this amount of money, if added to the appropriation for publishing the Journal, would give the State one of the best journals published by any State organization of similar size and number. We therefore unhesitatingly recommend that the former action of the House of Delegates upon this feature be reconsidered. We further recommend that additional help be secured by the election of several associate editors, whose duties may be defined to aid in the editorial policies of the Journal, to assist in reviewing books received, and to abstract articles from the foremost journals of America and abroad, that a department of abstracts may be opened, which, in our opinion, would be of great value to our readers.

The Journal now reaches every member of the State Association, together with copies to advertisers and to public libraries and exchanges which number approximately two hundred. Its circulation could easily be doubled in a few years by soliciting subscriptions amongst those who have graduated in Tennessee medical colleges and those who are now prosecuting the study of medicine in Memphis, Knoxville and Nashville. We mention these sources particularly for the reason that the Journal carries matter so frequently from teachers with whom they are personally acquainted, and with whose writings they desire to keep familiar, that other inducements would scarcely be needed. If a circulation of three or more thousand could be obtained in this or other ways, the results to our advertisers would be more profitable and space could be more easily sold.

During the year we have received from publishers for review fifty-six copies of valuable books and complete files of all journals exchanging with us. It was

formerly the custom to give these books to the party reviewing them.

With the idea of starting a nucleus for a State library, we have kept the books and have on hand fifty-six volumes. Realizing that a State library of sufficient importance to be of worth to the members could never be obtained in this way, we think the next most profitable disposition would be to donate them to the medical library of some central university, and would suggest that they be donated to Vanderbilt Medical Library.

We beg in conclusion to thank the officers of the association for their very generous assistance, and especially to extend our thanks to Dr. Larimore, of Chattanooga, who has always shown the greatest interest in this work, and to Dr. A. B. Cooke, of Nashville, who has always graciously contributed, at our request, a number of our most forceful editorials. Dr. Olin West, of Nashville, has willingly contributed public health notes of great value, and through his assistance we have been partially able to awaken an interest in public health matters.

The work connected with this office has at all times been exceedingly pleasant, and it is with much regret that I herewith tender my resignation, not with the desire to shirk a duty, but with the feeling that my private practice would suffer should I continue the neglect which I have been compelled to show it during the past twelve months.

With assurances of greatest respect and esteem,
I am,

PERRY BROMBERG, *Secretary*.

April, 1912.

CASH RECEIVED.

1911.

April.

27—Cincinnati Sanitarium\$ 45 00
May.

1—Dr. George H. Price 65 35
16—Miss Mildred Taylor, card 2 50
23—S. T. Hardison, dues 2 00

June.

7—Dr. P. Bromberg, loan 50 00
12—Howe Ice Co., adv. May 5 00
12—Chester Motor Car Co., adv. May..... 10 00
12—Tennessee Auto Co., adv. May..... 10 00

July.

1—D. Lowenheim & Co., adv. May and June 5 00
1—Theo. Tafel, May and June adv..... 10 00
1—Douglas Infirmary, adv. May and June.. 10 00
6—Mercantile Protective Assn., adv. June.. 2 50
6—Rudolph Maternity Home, adv. May and June 5 00
7—K. L. Storm, adv. May and June..... 5 00
8—Geo. A. Dickel & Co., adv. May and June 20 00
8—St. Thomas' Hospital, adv. May and June 5 00
8—New Orleans Polyclinic, 6 issues at \$2.50 15 00
9—City View Sanitarium, adv. May and June 5 00
10—Oxford Retreat, adv. May and June..... 5 00
11—Tennessee Auto Co., adv. June..... 5 00
14—Lebeck Bros., adv. May and June..... 5 00
16—F. A. Hardy & Co., adv. May and June.. 10 00
16—S. T. Rucker, adv. May and June..... 5 00
16—S. T. Rucker, balance on old account... 23 20

20—Petty & Wallace, adv. May and June....	5 00
20—DeMotive Drug Co., adv. May and June	20 00
20—B. H. Stief Jewelry Co., adv. May and June	5 00
22—Cincinnati Sanitarium, adv. May and June	10 00
23—Dr. J. H. Carter, card	5 00

August.

2—Mercantile Protective Assn., adv. July....	2 50
2—Dr. J. Hilliard Wood, card	5 00
2—Dr. T. J. Pollard, card	5 00
2—Lebeck Bros., adv. July	2 50
2—D. Lowenheim & Co., adv. July.....	2 50
2—Miss Leonora Cotter, card	2 50
2—Dr. Hazel Padgett, card	5 00
2—St. Thomas' Hospital, adv. July.....	2 50
3—Dr. John A. Gaines, card	5 00
3—City View Sanitarium, adv. July.....	2 50
3—Dr. Perry Bromberg, card	5 00
3—Dr. W. E. McCampbell, card	5 00
5—Dr. J. B. Steele, card	5 00
5—Drs. Lewis & Nelson, card	5 00
5—Theo. Tafel, adv. July	5 00
8—Oxford Retreat, adv. July	2 50
8—Katherine L. Storm, adv. July	2 50
8—Dr. C. Holtzclaw, card	5 00
8—Dr. N. C. Steele, card, half year.....	2 50
9—Dr. J. B. Wollford, card	5 00
9—Miss Lillian Thomas, card	2 50
9—DeMotive Drug Co., adv. July	10 00
10—Dr. J. A. Gentry, card	5 00
11—Dr. W. A. Bryan, card	5 00
13—Highland Sanitarium, adv. May and June	5 00
10—Tennessee Auto Co., adv. August.....	5 00
16—F. A. Hardy & Co., adv. July	5 00
17—Warner Drug Co., adv. May, June and July	30 00
23—Mrs. N. J. Pearre, card	2 50
24—Dr. E. E. Reisman, card	5 00
25—Standard Vulc & Tire Co., adv. June, July and August	7 50

September.

1—Savoy Hotel, adv. May, June and July...	7 50
1—B. H. Stief Jewelry Co., adv. August....	2 50
5—City View Sanitarium, adv. August.....	2 50
5—D. Lowenheim & Co., adv. August.....	2 50
5—Mercantile Protective Assn., adv. August	2 50
5—Dr. E. M. Sanders, card	5 00
6—Warner Drug Co., August adv.....	10 00
6—Dr. A. B. Cooke, card	5 00
7—Geo. A. Dickel & Co., adv. July and Aug.	20 00
7—Miss Dorothy Jellicose, card.....	2 50
7—Theo. Tafel, adv. August	5 00
8—Oxford Retreat, adv. August	2 50
8—Fairchild Bros. & Foster, adv. August..	7 50
8—Lebeck Bros., August adv.....	2 50
8—Oliver K. Hager, adv. August	2 50
8—St. Thomas' Hospital, adv. August.....	2 50
9—Miss Anne B. McLean, card	2 50
9—DeMotive Drug Co., adv. August.....	10 00
9—Dr. A. G. Nichols, card	5 00
11—University of Nashville and Tennessee, adv. May	10 00
11—Tennessee Auto Co., adv. August.....	5 00
11—Dr. Katherine L. Storm, adv. August...	2 50
15—Armour & Co., adv. July	8 33
16—F. A. Hardy & Co., adv. August.....	5 00
19—Dr. Paul DeWitt, card	5 00
19—Mrs. Annie D. McDaniel, card	2 50
23—B. H. Stief Jewelry Co., adv. August....	2 50
25—Armour & Co., adv. August	8 33
25—Dr. M. M. Cullom, card	5 00
25—Dr. Robert Caldwell, card	5 00

28—Savoy Hotel, adv. August	2 50
28—Dr. Elizabeth Kane, card	5 00
29—Miss Lula Norment, card	2 50
29—Miss Angeli Santini, card	2 50

October.

3—Dr. J. W. Handley, card	5 00
4—D. Lowenheim & Co., adv. Sept.....	2 50
4—Dr. W. H. Cheney, card	5 00
5—Theo. Tafel, adv. Sept.	5 00
5—Lebeck Bros., adv. Sept.	2 50
7—B. H. Stief Jewelry Co., adv. Sept.....	2 50
7—St. Thomas' Hospital, adv. Sept.	2 50
9—Fairchild Bros. & Foster, adv. Sept....	7 50
9—Miss Nellie Seat, card	2 50
10—Dr. Katherine L. Storm, adv. Sept.....	2 50
10—Warner Drug Co., adv. Sept.	10 00
10—Howe Ice Co., adv. June, July and August	22 50
11—Tennessee Auto Co., Sept. adv.	5 00
11—Dr. E. L. Roberts, card	5 00
11—Dr. Albert G. Kern, card	5 00
11—Oliver K. Hager, adv. Sept.	2 50
12—Geo. A. Dickel & Co., adv. Sept.	10 00
14—DeMotive Drug Co, adv Sept	10 00
14—Oxford Retreat, adv. Sept.	2 50
16—Lincoln Memorial University, adv. July, August and Sept.	20 00
17—F. A. Hardy & Co., adv. Sept.	5 00
17—Miss Sallie Harris, card	2 50
19—C. V. Mosby Book & Pub. Co., adv. Aug.	5 00
24—Armour & Co., adv. Sept.	8 33
24—University of Tennessee, adv. Sept., Oct. and Nov.	30 00
25—Drs. Petty & Wallace, adv. July, Aug. and Sept.	7 50
27—Dr. G. C. Savage, card	5 00
27—Cincinnati Sanitarium, adv. July, Aug. and Sept.	15 00
30—Savoy Hotel, adv. Sept.	2 50

November.

2—Dr. W. S. Anderson, card	5 00
3—Dr. O. N. Bryan, card	5 00
3—D. Lowenheim & Co., adv. Oct.	2 50
3—Dr. W. G. Bogart, card	5 00
6—Theo. Tafel, adv. Oct.	5 00
7—City View Sanitarium, adv. Sept. and Oct.	5 00
7—Dr. Katherine L. Storm, adv. Oct.	2 50
8—Jos. Frank & Son, adv. Oct.	6 50
9—St. Thomas' Hospital, adv. Oct.	2 50
9—Dr. W. F. Glenn, card	5 00
10—Armour & Co., adv. Oct.	8 33
10—Lebeck Bros. adv. Oct.	2 50
10—U. S. Bargain House, adv. Oct.	15 00
11—Tennessee Auto Co., adv. Oct.	5 00
11—Parke, Davis & Co., adv. Oct.	7 13
11—Columbus Med. Laboratory, adv. Oct....	1 00
14—Dr. P. H. Anderson, card	5 00
15—Oxford Retreat, adv. Oct.	2 50
15—B. H. Stief Jewelry Co., adv. Oct.	2 50
16—F. A. Hardy & Co., adv. Oct.	5 00
18—H. K. Mulford & Co., adv. Oct.	9 50

December.

1—Savoy Hotel, adv. Oct.	2 50
1—Dr. W. D. Sumpter, card	5 00
2—Lebeck Bros., adv. Nov.	2 50
4—D. Lowenheim & Co., adv. Nov.	2 50
4—Shoffner Hospital, adv. Nov.	5 00
4—Theo. Tafel, adv. Nov.	5 00
8—St. Thomas' Hospital, adv. Nov.	2 50
8—City View Sanitarium, adv. Nov.	2 50
8—Fairchild Bros. & Foster, adv. Nov....	7 50
8—Dr. Katherine L. Storm, adv. Nov.....	2 50
11—Tennessee Auto Co., adv. Nov.....	5 00

12—Armour & Co., adv. Nov.	8 33
13—Warner Drug Co., adv. Oct. and Nov...	20 00
13—Columbus Med. Laboratory, adv. Nov...	1 00
13—Dr. M. C. McGannon, adv. Physicians' Directory	50
14—Oxford Retreat, adv. Nov.	2 50
16—F. A. Hardy & So., adv. Nov.	5 00
18—Savoy Hotel, adv. Nov.	2 50
18—Parke, Davis & Co., adv. Nov.	7 13
20—DeMotive Drug Co., adv. Oct. and Nov.	20 00
22—Fairchild Bros. & Foster, adv. Nov....	7 50

1912.

January.

1—Baroness Erlanger Hospital, adv. May to Nov.	17 50
2—Newell & Newell, adv. May to Aug....	30 00
3—D. Lowenheim & Co., adv. Dec.	2 50
3—Shoffner Hospital, adv. Dec.	5 00
5—Dr. S. T. Rucker, card	5 00
5—Dr. S. T. Rucker, adv. July	2 50
8—Dr. Katherine L. Storm, adv. Dec.	2 50
8—City View Sanitarium, adv. Dec.	2 50
9—Warner Drug Co., adv. Dec.	10 00
9—Theo. Tafel, adv. Dec.	5 00
9—Dr. Newton Evans, card, 5 issues.....	2 00
9—Columbus Med. Laboratory, adv. Dec....	1 00
10—Oxford Retreat, adv. Dec.	2 50
10—B. H. Stief Jewelry Co., adv. Nov. and Dec.	5 00
10—St. Thomas' Hospital, adv. Dec.	2 50
11—Tennessee Auto Co., adv. Dec.	5 00
12—Parke, Davis & Co., adv. Dec.	7 13
13—Armour & Co., adv. Dec.	8 33
13—DeMotive Drug Co., adv. Dec.	10 00
18—F. A. Hardy & Co., adv. Dec.	5 00
19—Dr. Jas. P. Crawford, card	5 00
22—Drs. Petty & Wallace, Sanitarium, adv. Nov., Dec. and Jan.	7 50
22—H. K. Mulford & Co., adv. Nov. and Dec.	19 00
26—Cincinnati Sanitarium, adv. Oct., Nov. and Dec.	15 00

February.

3—Theo. Tafel, adv. Jan.	5 00
3—Drs. N. C. & Willard Steele, card, balance	2 50
3—D. Lowenheim & Co., adv. Jan.	2 50
5—Fairchild Bros. & Foster, adv. Dec.....	7 50
6—White, Yarborough & Swain, adv. Aug. to Jan.	15 00
7—Shoffner Hospital, adv. Jan.	5 00
8—Columbus Med. Laboratory, card, Jan....	1 00
10—Dr. Katherine L. Storm, adv. Jan.	2 50
10—Oxford Retreat, adv. Jan.	2 50
12—Parke, Davis & Co., adv. Jan.	7 13
12—Armour & Co., adv. Jan.	8 33
12—Savoy Hotel, adv. Dec.	2 50
12—Tennessee Auto Co., adv. Jan.	5 00
12—St. Thomas' Hospital, adv. Jan.	2 50
13—DeMotive Drug Co., adv. Jan.	10 00
14—Baroness Erlanger Hospital, adv. Dec...	2 50
27—H. K. Mulford Co., adv. Jan.	9 50
22—Fairchild Bros. & Foster, adv. Jan.....	7 50
23—Warner Drug Co., adv. Jan.	10 00
29—Savoy Hotel, adv. Jan.	2 50

March.

1—D. Lowenheim & Co., adv. Feb.	2 50
2—Shoffner Hospital, adv. Feb.	5 00
4—Theo. Tafel, card, Feb.	5 00
6—Rich Printing Co., adv. 9 months at \$5.00	45 00
7—Katherine L. Storm, adv. Feb.	2 50
7—Phillips & Buttorff, adv. Sept. and Oct..	10 00
7—Dr. R. M. Colmore, card	5 00
8—Mrs. Emma Brockman, card	2 50

8—Columbus Med. Laboratory, adv. Feb. ...	1 00
11—Parke, Davis & Co., adv. Feb.	7 13
11—Armour & Co., adv. Feb.	8 33
12—DeMotive Drug Co., adv. Feb.	10 00
12—Gupton-Sweeney Co., adv. Aug. to Feb..	39 62
12—Tennessee Auto Co., adv. Feb.	5 00
12—Miss Annie Barry, card	5 00
12—Oxford Retreat, adv. Feb.	2 50
14—B. H. Stief Jewelry Co., adv. Jan. and Feb.	5 00
14—Dr. C. F. Anderson, card	5 00
15—Dr. Jas. H. Atlee, card	5 00
18—H. K. Mulford Co., adv. Feb.	9 50
18—F. A. Hardy & Co., adv. Jan. and Feb....	10 00
20—Savoy Hotel, adv. Feb.	2 50
23—Warner Drug Co., adv. Feb.	10 00
25—City View Sanitarium, adv. Jan., Feb. and March	7 50
26—Dr. John Q. Owsley, card, 2 issues.....	2 00

April.

1—Fairchild Bros. & Foster, adv. Feb.	7 50
3—Hotel Patton, adv. March and April....	20 00
3—Great Eastern Casualty Co., adv. 6 issues	15 00
3—D. Lowenheim & Co., adv. March.....	2 50
3—Benedict & Reese, adv. 10 issues.....	25 00
3—Rudolph Maternity Home, adv. 9 issues..	22 50
3—Eastern Hotel, Chattanooga, adv. April..	4 00
3—Theo. Tafel, adv. March	5 00
3—Shoffner Hospital, adv. March	5 00
4—Drs. Petty & Wallace, Sanitarium, adv. Jan., Feb. and March	7 50
7—Check to Cumberland Valley National Bank, transferring bank account.....	240 84
7—K. L. Storm, adv. March.....	2 50

Total\$1,995 80

CASH DISBURSED.

1911.

May.	Voucher No.	
1—Castner-Knott Co., rugs and shades	1	\$ 13 50
6—Stenographer, salary, April 22 to May 6	2	20 00
13—Dr. P. Bromberg, incidentals as follows. Wagon for moving from Dr. Price's office....\$ 3 00 Desk and lamp, second-hand	12 00	
Moving desk	2 00	
Postage on transactions from Chicago	18	
Stamps for office	7 00	
Books and pencils for stenographer	40— 3	24 58
13—Stenographer, May 6 to 13....	4	10 00
15—Marshall & Bruce, stationery and envelopes	5	6 20
20—Stenographer, May 13 to 20....	6	10 00
20—Dr. W. C. Bilbro, dues C. W. Dickey	7	2 00
26—McQuiddy Printing Co., repairing typewriter	8	3 50
27—A. W. Wills, postmaster, postage on May Journal	9	5 34
27—Stenographer, May 20 to 27....	10	10 00
31—Stamps for office	11	5 00
June.		
7—Office rent for month of May... 12		10 00
7—Underwood Typewriter Co., typewriter ribbon	13	75

7—Stenographer, May 27 to June 3 14.	10 00	3—H. E. Jackson, office rent, Sept. 63	10 00
8—Standard Printing Co., index file 15	7 50	4—Nashville Ry. & Light Co., bal-	
10—Stenographer, June 3 to 10 (adv. \$5.00)	15 00	ance on fan rental..... 64	55
17—H. Cohen, office chair..... 17	2 50	7—Stenographer, Sept. 30 to Oct. 7. 65	12 00
17—Stenographer, balance salary June 10 to 17	5 00	12—Cum. Val. Natl. Bank, trans-	
21—Stenographer, June 17 to 24.... 19	10 00	ferring bank account	240 84
27—Friend Bros., staples for filing.. 20	60	13—Dr. P. Bromberg, drayage, Sept. Journal	75
27—A. W. Wills, postmaster, postage June Journal	4 87	14—Stenographer, Oct. 7 to 14..... 68	12 00
27—Lebeck Bros., stamps for office.. 22	3 00	21—Stenographer, Oct. 14 to 21.... 69	12 00
29—Stenographer, June 24 to July 1. 23	10 00	21—A. W. Wills, postmaster, post-	
July.		age Oct. Journal	70
3—Nashville Ry. & Light Co., fan rental	1 13	25—Lebeck Bros., stamps for office.. 71	4 12
6—H. E. Jackson, office rent, June. 25	10 00	28—Stenographer, Oct. 21 to 28.... 72	4 00
8—E. B. Robinson, commission on advertising	20 00	November.	12 00
8—Stenographer, July 1 to 8..... 26	10 00	1—H. E. Jackson, office rent, Oct.. 73	10 00
9—Lebeck Bros., stamps for office. 28	3 00	4—Stenographer, Oct. 28 to Nov. 4. 74	12 00
15—Stenographer, July 8 to 15..... 29	10 00	9—Jack Swafford, commissions on advertising	15 00
20—Dr. P. Bromberg, refund of borrowed money	57 25	11—Stenographer, Nov. 4 to 11.... 76	12 00
21—A. W. Wills, postmaster, postage July Journal	4 77	11—Kate Whitson, extra work.... 77	2 50
21—Dr. P. Bromberg, drayage, July Journal	75	11—A. W. Wills, postmaster, post-	
23—Stamps for office	3 00	age Nov. Journal	4 79
23—Stenographer, July 15 to 23.... 34	10 00	13—Lebeck Bros., stamps for office.. 79	5 00
31—Stenographer, July 23 to 29.... 35	10 00	18—Stenographer, Nov. 11 to 18.... 80	12 00
August.		25—Stenographer, Nov. 18 to 25.... 81	12 00
1—Lebeck Bros., stamps for office.. 36	3 00	29—Lebeck Bros., stamps for office.. 82	3 00
2—H. E. Jackson, office rent, Aug.. 37	10 00	December.	
2—Underwood Typewriter Co., typewriter ribbon	75	1—H. E. Jackson, office rent, Nov.. 83	10 00
3—Nashville Ry. & Light Co., fan rental	1 50	2—Underwood Typewriter Co., typewriter, \$38.13; typewriter ribbon, 75c	38 88
3—Davie Printing Co., ledger.... 40	65	2—Stenographer, Nov. 25 to Dec. 2. 85	12 00
5—Stenographer, July 29 to Aug. 5. 41	12 00	7—Davie Printing Co., carbons, notebooks and clips	1 00
5—A. W. Wills, postmaster, postage Aug. Journal	4 00	13—Lebeck Bros., stamps for office.. 87	5 00
5—Stenographer, Aug. 5 to 19.... 43	24 00	16—Stenographer, Dec. 2 to 9..... 88	12 00
23—Lebeck Bros., stamps for office.. 44	3 00	16—Stenographer, Dec. 9 to 23.... 89	24 00
23—Herman Glick, postage and drayage, Journal	3 00	16—A. W. Wills, postmaster, postage Dec. Journal	4 94
27—Stenographer, Aug. 19 to 26.... 46	12 00	November.	
29—E. B. Robinson, commission on advertising	15 00	21—Cullom & Ghertner, printing membership list and envelopes 91	8 00
September.		30—Stenographer, Dec. 23 to 30.... 92	12 00
4—H. E. Jackson, office rent, Aug.. 48	10 00	1912.	
4—Stenographer, Aug. 26 to Sept. 1. 49	12 00	January.	
4—Lebeck Bros., stamps for office.. 50	3 00	1—Lebeck Bros., stamps for office.. 93	5 00
6—Underwood Typewriter Co., repairs to typewriter..... 51	50	6—Stenographer, Dec. 30 to Jan. 6. 94	12 00
9—Stenographer, Sept. 1 to 9..... 52	12 00	8—Davie Printing Co., ink..... 95	75
9—Rich Printing Co., errors in proof, \$6.20; stationery, \$11.50. 53	18 20	13—Stenographer, Jan. 6 to 13.... 96	12 00
13—Davie Printing Co. 54	1 20	16—Friend Bros., staples for brad-	
16—Stenographer, Sept. 9 to 16.... 55	12 00	ding machine	60
19—Lebeck Bros., stamps for office.. 56	3 00	17—A. W. Wills, postmaster, post-	
23—Stenographer, Sept. 16 to 23.... 57	12 00	age Jan. Journal	4 87
27—Western Union Tel. Co., telegram to Dr. Broyles..... 58	40	18—Lebeck Bros., stamps for office.. 99	5 00
27—A. W. Wills, postmaster, postage Sept. Journal	4 72	19—Dr. P. Bromberg, mess. for Nash. list, Journal..... 100	1 50
30—Stenographer, Sept. 23 to 30.... 60	12 00	20—Stenographer, Jan. 13 to 20.... 101	12 00
October.		24—H. E. Jackson, office rent, Dec. 102	10 00
2—Nashville Ry. & Light Co., fan rental	1 66	27—Stenographer, Jan. 20 to 27.... 103	12 00
2—Lebeck Bros., stamps for office.. 62	3 00	February.	
		1—H. E. Jackson, office rent, Jan.. 104	10 00
		3—Stenographer, Jan. 27 to Feb. 10. 105	24 00
		7—Lebeck Bros., stamps for office.. 106	5 00
		13—Davie Printing Co., paste..... 107	40
		17—Stenographer, Feb. 10 to 17.... 108	12 00
		20—A. W. Wills, postmaster, postage Feb. Journal	4 28
		24—Stenographer, Feb. 17 to 24.... 110	12 00
		29—Lebeck Bros., stamps for office.. 111	4 00

29—Dr. P. Bromberg, incidentals...	112	1 80
March.		
1—H. E. Jackson, office rent, Feb.	113	10 00
2—Stenographer, Feb. 24 to March 2	114	12 00
6—Rich Printing Co., stationery...	115	13 25
9—Stenographer, March 2 to 9...	116	12 00
9—A. W. Wills, postmaster, postage March Journal	117	4 48
12—Lebeck Bros., stamps for office...	118	4 00
12—Dr. P. Bromberg, drayage, 50c; boy, 75c; express, 50c	119	1 75
15—Boyd Robinson, commission on advertising	120	19 50
15—Dr. P. Bromberg, salary.....	121	500 00
16—Stenographer, March 9 to 16...	122	12 00
20—Rich Printing Co., 500 wrappers, Journal	123	2 20
23—Stenographer, March 16 to 24...	124	12 00
27—Lebeck Bros., stamps for office...	125	5 00
30—A. W. Wills, postmaster, postage April Journal	126	5 02
30—Stenographer, March 24 to 31...	127	12 00
April.		
1—H. E. Jackson, office rent, Mch.	128	10 00
1—Dr. P. Bromberg, typewriter paper, 50c; drayage \$1.00; boy, 75c; desk lock, 50c; postal cards, 25c	129	3 00
3—Rich Printing Co., 400 programs, \$30.50; badges, \$6.00; letterheads, \$2.90	130	39 40
6—Stenographer, March 31 to April 6	131	12 00
Total		\$1,886 99

RECAPITULATION.

Total cash received	\$1,995 80
Total cash disbursed	1,886 99
Balance in bank	\$ 108 81

We, the undersigned, Auditing Committee, have examined the books of Dr. P. Bromberg, Secretary, and find that he has received from his predecessor, Dr. George H. Price, \$65.35, and has collected during the year \$1,930.45, making a total of \$1,995.80. He has disbursed during the year \$1,886.99, leaving a balance on hand April 6 of \$108.81.

(Signed) B. M. TITTSWORTH,
B. F. FYKE,
WALTER DOTSON.

Secretary Bromberg stated at the conclusion of the reading of his report that he would not take up the time of the meeting to read the detailed statement of receipts and disbursements, as they would be published in the JOURNAL, but that anyone that cared to do so was at liberty to see them.

Dr. A. B. Cooke: I move that the Secretary's report be received and that the Secretary be requested to read same before the general meeting.

His motion was seconded and carried.

The President then called for the report of the Treasurer.

Dr. Bilbro: My report is not usually asked for on the first day and I am not fully prepared, and some little money has been paid in to me since my arrival at the meeting, and I would like for the reading of my report to be deferred until tomorrow.

His request was granted.

Dr. Bilbro then moved that an intermission of ten or fifteen minutes be had for the purpose of selecting a Nominating Committee. Someone stated that a motion for this was not necessary, that it was customary. President Broyles then declared an intermission of fifteen minutes for the purpose stated.

On re-assembly, Dr. Witherspoon suggested for members of the Nominating Committee for Middle Tennessee, Drs. Olin West, W. M. Johnson and W. S. Farmer; Dr. J. S. Miller suggested for members for East Tennessee, Drs. L. L. Shedd and M. A. Blanton; Dr. G. B. Gillespie suggested for members for West Tennessee, Drs. Jere Crook and George E. Petty.

Dr. Witherspoon: Some action should be taken by the body in regard to the delegates to the American Medical Association meeting. Dr. A. B. Cooke was elected to fill the term of Dr. S. S. Crockett, who was elected for only one year, whereas Dr. Cooke was elected for two years.

President Broyles: Will you make your suggestion a motion, Doctor?

Dr. Witherspoon: Yes.

Dr. McCabe: The mistake was made by the House of Delegates, and the House should consider the re-election of Dr. Cooke as a delegate to the A. M. A.

Dr. Witherspoon: I second Dr. McCabe's motion.

President Broyles: Is any further discussion of the question desired? It is my hope that Dr. Cooke will be continued as a delegate to the A. M. A. It is unfortunate that a mistake in the matter was made, but I suppose the only thing we can do to correct it is to vote on it.

Dr. Wilson asked what the motion was, and Dr. McCabe explained.

Dr. Miller: I would suggest that the Nominating Committee be instructed that Dr. Cooke's term expires this year, and that they nominate two men as delegates to the A. M. A.

Dr. McCabe: It is my understanding that Dr. Crockett was elected for two years, but only served one year, and I would be glad to have Dr. Cooke serve for another year.

Dr. Miller: I move that the minutes be corrected to show that Dr. Cooke stands elected for this year.

Dr. McCabe: I withdraw my motion.

Dr. Miller's motion was then seconded and carried.

President Broyles then asked for the next business in order.

Secretary Bromberg: I wish to read a letter received relative to speakers on questions of public health.

Permission to read the letter was granted, and Secretary Bromberg read the following:

"CHICAGO, April 1, 1912.

"Dr. Perry Bromberg, Secretary Tennessee State Medical Association, Nashville, Tenn.

"DEAR DOCTOR: The Speakers' Bureau organized by the Council the first of the year has been very successful in furnishing speakers for local medical organizations desiring to hold public meetings. We have now about sixty speakers on the list. More men are needed to fill appointments in order that the work may not be too heavy on any one individual. If there are any of the members of your State Society who are qualified to make public addresses on public health topics, and who would be interested in the plans of the Council, I shall be glad to know of them. Any suggestions you may make in this direction will be welcome.

"During the two months remaining before the annual session of the Association, we desire to supply speakers for just as many public meetings as possible, in order to be able to make a report to the House of Delegates which will cover as many phases of this work as possible. We also

hope to see a large number of public meetings on health topics held during this period. If there are any cities in your State in which public meetings on health topics are desired during April and May, please let me know at once so that arrangements can be made for speakers. Permit me to point out that in order to save time in correspondence, it is advisable wherever possible to give the following facts in each case: City in which meeting is desired; date preferred; time of meeting; whether afternoon or evening; first, second or third choice of speakers; name of local Chairman in charge of arrangements. If these facts are given it will save considerable correspondence as well as delay in telegraphing, etc.

"If you desire arrangements made for additional public meetings in your State during the next two months, please let me hear from you as soon as convenient.

"Very truly yours,

"FREDERICK R. GREEN,

"Secretary."

Dr. Witherspoon: The A. M. A. has committees of public speakers in different States, the idea being that wherever they can get a man to go and speak on matters pertaining to the public welfare, they will pay his expenses if he will simply go and make the address.

On motion, the meeting then adjourned until 8 o'clock Wednesday morning.

Wednesday, April 11—Morning Session.

Meeting was called to order by President Broyles at 8:40 a.m.

Reading of the minutes of Tuesday's proceedings was asked for, but not having been transcribed by the stenographer, the reading was dispensed with.

President Broyles then requested the presentation of any business that was to come before the body.

Secretary Bromberg: I would like to read a circular letter received by President Broyles, asking for the ideas of the State Society on reciprocity.

Permission to read the letter was granted and Secretary Bromberg read the following:

"LITTLETON, N. H., March 29, 1912.

"C. J. Broyles, M.D., President State Society.

"DEAR DOCTOR: This circular letter is being sent to the President of each State Society to learn through him the attitude of the members towards the subjoined questions, so that the consensus of opinions may be presented to the New Hampshire Medical Society, May 8 and 9.

"1. Are you in favor of reciprocity?

"2. If 'Yes,' do you prefer that each State negotiate with its sister States; or

"3. Would you favor a National Licensing Board, said board to prepare and pass upon all examination papers, and whose license shall be recognized in every State?

"4. If not in favor of reciprocity, please give reasons why.

"Fraternally yours,

"C. W. MCGREGOR,

President New Hampshire State Medical Society."

Secretary Bromberg: I would like to have the ideas of the body on the question of reciprocity in order that suitable reply to the letter may be made.

Dr. Cooke: Has no reply yet been made to the letter?

President Broyles: I did not reply, as I wanted the ideas of the Society on the question, and I would like to hear some discussion on it in order that we may arrive at some conclusion.

Dr. Robinson: It is favorable to me personally, and I believe reciprocity should obtain in all States of the Union, because if a man is eligible to practice medicine in any one State, he should be eligible to practice in any State. Membership in the State Society is legal evidence from the American Medical Association that such member is a qualified and reputable physician.

Dr. Fyke: All members of the Robertson County Medical Society favor reciprocity.

Dr. Miller: The members present had a good deal to do with the State laws in bringing about reciprocity, and for that reason I think it would be safe to say that the Ten-

nessee State Medical Society favors reciprocity, but I do not believe a National Board would be practical. License in one State is not sufficient to practice in any State, but by making proper laws for the government of medical examiners, such a condition could be brought about. I wish to go on record as favoring reciprocity.

President Broyles: There is no further business before the House, and I would like to hear the opinions of others on the subject.

Secretary Bromberg: The communication from the A. M. A. should have attention. It is the duty of the State Society to appoint speakers or request their appointment and to arrange an itinerary for the men, as they are undoubtedly doing a great deal of good. Proper recognition should be made of this, and I would suggest, or move, that a committee of the House of Delegates take up the question and persuade members throughout the State to arrange an itinerary for speakers.

Dr. Miller seconded the motion and it carried.

Dr. McDonald: If permissible, I would like to return to the question of reciprocity. I move that it be recorded as the sense of the Tennessee State Medical Association that we have National reciprocity in some manner. I do not believe that a National board would be practical under existing laws; it should be arranged as a matter between States, though that is a matter for them to take up when they arrange it. I know for a fact that a number of States have reciprocity, through recently having had the matter up with Texas. They have reciprocity, though Tennessee is not one of the States with which they exchange. I believe that if members are allowed to practice in Missouri or Illinois, they should be allowed to practice in any other State. I think this should be because someone might want to make a change from one State to another, and I seriously doubt if I, for one, could pass another board, and for that reason should not be subjected to the necessity therefor.

President Broyles: Dr. McDonald was

out of order in his motion, though this body might favor a National Board, it is a matter for legislation, as the State regulates the practice of medicine, and I would suggest that Dr. McDonald change the form of his motion. It would be ridiculous to pass a motion favoring a National Board of Medical Examiners, as that would have to be done by reciprocity.

Dr. McDonald: My motion was misunderstood. I wished it to be the sense of the Society that Tennessee have reciprocity.

Further discussion was asked for, but no one desiring to discuss it further, the question was put and carried.

Dr. Miller: It seems there are a good many matters that should be taken up. There has been no report from the Councilors, though they should have a meeting this morning; also the Trustees have not reported, and no Auditing Committee has been appointed to go over the accounts of the Treasurer and the Secretary.

President Broyles commended Dr. Miller's remarks and stated that he did not know what order of business was customary, as he did not have a printed book of rules for the government of the sessions, and that members must bring up whatever business they had; that he would be glad to hear the reports of the Councilors and the different committees.

Secretary Bromberg moved that the Councilors adjourn to an adjoining room and prepare their reports. He was seconded, and the question was put and carried. It was then asked that the Secretary read off the names of the Councilors, which he did. The Councilors withdrew from the meeting.

Dr. Black: I wish to speak in behalf of the members of the Shelby County Medical Society in regard to changing the date of the meeting. The existing dates do not bother the men in Middle and East Tennessee, but do concern the Memphis members. The present date prevented a great many men from coming to the meeting that would have very much liked to be present. I have drawn up a resolution to the effect, and if agreeable would like to present it.

Permission was granted, and Dr. Black read the following:

"Be it resolved by the House of Delegates of the Tennessee State Medical Association, that Section 1, Chapter 2, of the By-Laws be amended so as to fix the time of the annual meeting of the Association on the fourth Tuesday in April, instead of the second Tuesday, as now provided.

"J. HUGH CARTER.

"WM. T. BLACK."

President Broyles put the question, but he was reminded that the matter must lay over one day for consideration.

President Broyles then asked if the meeting could not be changed to the third Tuesday in April without conflicting with any other meetings in this territory. Dr. Petty stated that it should be made the fourth Tuesday if it was changed at all, as it would then not conflict with the meeting of the Mississippi State Medical Association nor the Alabama State meeting, which some of the Tennessee members visited, and if it could be arranged so that a conflicting date could be avoided, so much the better. President Broyles then stated that the members could arrange the matter among themselves, that he was agreeable to either of the dates.

The report of Dr. Bilbro was then asked for, and Dr. Bilbro requested that the report be deferred for a few minutes, which was done.

Secretary Bromberg stated that no reports had been received from any of the committees. President Broyles then called on Secretary Bromberg, as Chairman of the Committee on Scientific Work, to report.

Secretary Bromberg: I have no written report to make. However, the committee had a meeting in Nashville, at which all members were present except Dr. Dunavant. Some members of the Council were present, as were several other men who were invited to participate. The committee decided among other things to make some rather radical changes in the program, the result of which is now before the body in the program for this meeting. They selected the program very carefully, and I be-

lieve that, so far, only one man selected has failed to respond to his name when called upon, and I wish to call attention also that every man who has responded has been an excellent essayist.

President Broyles complimented the report.

The President then asked for the report of the Committee on Legislation.

Dr. West: Dr. McCabe has not yet appeared in the meeting this morning, and I am unable to report anything much accomplished. However, I believe the Association is in a fair way to secure the proposed legislation. In fact, we had some bills introduced and passed, and would probably have put through some more but for the fact that the Tennessee Legislature split up during the time they were in session and some of the members left the State for so long that when they did finally return, they had so much unfinished business on hand and so little time in which to dispose of it that we could not even get our other bills introduced. Dr. McCabe wishes to suggest to the House of Delegates that the President appoint men to see members of the State Legislature from their particular county. In that way they can get their attention more forcibly than they could possibly do by waiting until they are in session at the Capitol. I think the Tennessee State Medical Association overlooked the chance of a lifetime when they failed to visit the Legislature in a body to request the passing of their bills. It is also my belief, as a member of the Committee on Legislation, a member of the State Society, and as a man engaged in public health service, that the State Society should do something that would insure the passage of some of the measures proposed.

President Broyles: I would be glad if the incoming President would appoint a man in every county that would make it his business to see his Representative, looking to the passage of the bills, and that when we meet in Nashville next year the body will make some move while there that will bring results. It is my belief that the visit of the entire body to the Capitol and the Legis-

lature would have brought about the desired legislation. I think, however that the measure would have been introduced and passed anyway had it not been for the particularly turbulent condition of State politics at the time. I hope the members will realize the importance of the matter and take steps at once to carry out the ideas suggested by Dr. West.

Dr. West: The opposition have doubled their efforts. They have organized a State society, and it is going to be all the reputable physicians of the State can do to overcome their pernicious influence.

President Broyles: I would be glad to have the body begin right now and take the necessary steps to bring about the desired results.

Secretary Bromberg: I move that the suggestions of Dr. West be made a motion, and that the President appoint a committee in each county favorable to public health bills.

Dr. Bilbro: I second that motion and move an amendment to the effect that the man appointed in each county shall have the authority and privilege of appointing other men to assist him. The way to go about it is for these men to see the Legislators while they are at home. They can be more easily controlled there than elsewhere. I believe that the majority of country doctors can control the election of most any legislator and that the legislators themselves are cognizant of this fact. I do not believe that the doctors in the larger towns and cities can do this, but most country doctors can. If enough men were selected in each county, the Society could get whatever they want from the Legislature.

No one else desiring to discuss the matter, President Broyles put the question, and it carried.

The Treasurer's report was then asked for, and he read the following:

TREASURER'S REPORT

FOR 1911-12.

To the Officers and Members of the Tennessee State Medical Association:

Your Treasurer begs leave to make the following report:

Cash in hands of Treasurer, April 13, 1911..\$2,159 91

Cash received from counties for

1911:

Crockett County	2 00	
Davidson County	\$ 14 00	
Davidson County	30 00—	44 00
Gibson County		2 00
Hamilton County	12 00	
Hamilton County	10 00	
Hamilton County	2 00	
Hamilton County	4 00	
Hamilton County	12 00	
Hamilton County	4 00—	44 00
Henry County		12 00
Jackson County		2 00
Knox County		4 00
McMinn County		14 00
Marshall County		2 00
Maury County		4 00
Robertson County	2 00	
Robertson County	2 00—	4 00
Shelby County	24 00	
Shelby County	10 00—	34 00
Smith County		2 00
Sumner County		6 00
Unicoi County	12 00	
Weakley County	30 00	
Williamson County	2 00	
Wilson County	2 00	

Cash for 1912 dues:

Anderson County		20 00
Blount County	10 00	
Blount County	4 00—	14 00
Bradley County		10 00
Campbell County	12 00	
Campbell County	12 00—	24 00
Cumberland County		6 00
Davidson County		24 00
Dyer County		54 00
Gibson County		44 00
Giles County		48 00
Greene County		58 00
Hamilton County	74 00	
Hamilton County	62 00	
Hamilton County	24 00—	160 00
Hardeman County		30 00
Haywood County	20 00	
Haywood County	4 00—	24 00
Henderson County		32 00
Hickman County		14 00
Humphreys County	14 00	
Humphreys County	18 00	
Humphreys County	4 00—	36 00
Jefferson County		16 00
Knox County	74 00	
Knox County	50 00—	124 00
Lake County		24 00
Loudon County	16 00	
Loudon County	4 00—	20 00
McMinn County	24 00	
McMinn County	8 00	
McMinn County	4 00—	36 00
Madison County		54 00
Maury County		52 00
Monroe County		14 00
Montgomery County		38 00
Overton County		12 00
Polk County		18 00
Putnam County		24 00
Rhea County		32 00
Roane County		20 00
Robertson County		18 00
Rutherford County		36 00

Scott County		10 00
Sevier County		16 00
Shelby County	328 00	
Shelby County	4 00—	332 00
Smith County		28 00
Sumner County	22 00	
Sumner County	2 00—	24 00
Tipton County		28 00
Warren County		14 00
Washington County		54 00
White County	26 00	
White County	26 00	
White County	6 00—	58 00
Wilson County	14 00	
Wilson County	14 00—	28 00

Total\$4,333 91

Amount disbursed during 1911-12:

1911.

May 9, William Whitford, report- ing meeting 1911	\$136 00
May 29, Rich Printing Co., publish- ing Journal	243 45
July 3, Rich Printing Co., publish- ing Journal	260 35
August 5, Rich Printing Co., pub- lishing Journal	226 50
August 5, Dr. A. B. Cooke, expenses to A. M. A.	50 00
August 29, Dr. S. R. Miller, ex- penses to A. M. A.	50 00
September 5, Rich Printing Co., pub- lishing Journal	239 00
October 2, Rich Printing Co., pub- lishing Journal	451 50
November 28, Rich Printing Co., publishing Journal	244 00
December 23, Rich Printing Co., publishing Journal	225 25

1912.

January 17, Rich Printing Co., pub- lishing Journal	230 82
February 24, Rich Printing Co., pub- lishing Journal	230 80
March 29, Rich Printing Co., pub- lishing Journal	226 65
April 5, Rich Printing Co., pub- lishing Journal	249 75
April 11, premium on Treasurer's bond	10 00
April 11, to printing and postage Treasurer's office	15 00
April 11, Treasurer's salary	100 00—

Balance on hand April 11, 1912.....\$1,144 84

We, the undersigned, Auditing Committee, have examined this, the Treasurer's report, and find he has on hand and has collected during the current year \$4,333.91, and has paid out for current expenses \$3,189.07, leaving a balance in the treasury to this date of \$1,144.84.

(Signed) B. M. TITSWORTH, M.D.

B. F. FYKE, M.D.

WALTER DOTSON, M.D.

April 10, 1912.

At the conclusion of his report, Treasurer Bilbro moved that a committee be appointed to audit his books. His motion was second-

ed and carried, and President Broyles named Drs. Tittsworth, Fyke and Dotson as an Auditing Committee to go over the books of both the Treasurer and Secretary.

President Broyles then asked Dr. Petty if he was ready to bring up the matter of the Journal and Transactions. Dr. Petty stated that the matter was set for the 2 o'clock meeting, and it was therefore deferred until 2 o'clock.

On motion, the meeting then adjourned until 2 o'clock.

Wednesday, April 10—Afternoon Session.

The meeting was called to order by President Broyles at 2:15 p.m.

President Broyles: By motion of Dr. Petty, the body will consider an amendment to Article 8 of the Constitution and By-Laws. I will ask Dr. Petty to explain the matter to the body.

Dr. Petty: The amendment has to do with the Journal and Transactions. I believe the membership throughout the State favors the Transactions, though there may be some that do not if the Journal is abolished. We voted on it in the Shelby County Society and the result showed that they favored the Transactions alone, but if the Transactions were not to be had, they wanted the Journal. In my judgment, however, three-fourths of the membership would vote for the bound volume of the Transactions rather than the Journal, on account of the bound volume as a reference. I do not wish to insist upon the adoption of the original amendment, but will present an amendment to the amendment looking to a continuation of the Journal under the law, but to provide for the binding of the Journal at the end of the year to be mailed to all members. The value of the bound volume should be considered very carefully. I refer particularly to members sometimes having read articles, and wishing to refer to them, find that the copy the article was in has been mislaid in spite of the care used to preserve them as they were received from time to time. On the other hand, if they are all handy, as in the case of the bound volume, they have a permanent record. Personally, I have kept

all copies received, through having been very careful, but I believe the only positive way to keep all copies is to have them bound. By doubling the present advertising section of the Journal, it seems to me it could be made to meet the expense of binding and mailing the Transactions to the members. With the idea of carrying the above into effect, I move to strike out or not insist upon any part of the amendment except Section 4 of Chapter 7 of the By-Laws, and have that part changed to read: "Instead of striking out any reference to the Secretary as Editor of the Journal, let that stand and follow it with 'Or shall publish the Transactions of the House of Delegates and scientific proceedings of the General Sessions, and such other matter as is pertinent thereto, in the form of a bound volume.'" The extra sheets, the advertising section, could be left off and only that part assembled that comprises the actual reading matter, and these extra sheets could be bound at the end of the year into one volume, one copy for each member of the State Association, and kept in the Secretary's office until such time as they are to be sent out to the members; shipment then to be made by freight, prepaid, or otherwise, at the discretion of the Secretary.

Dr. Miller: It would cost fifteen or twenty cents each to mail the bound volumes to members individually. It would be considerably less expensive to ship all copies for the members in each county to the Secretary of that county society, or still better for the Secretary of the State Society to bring all the copies to the State meeting for distribution to such members as want them, and while some few might not get their copies, it would be entirely their own fault. In order to get the matter open for discussion, I move that the body consider the original amendment.

Dr. West: When this resolution was introduced last year, it was required to wait a year before it could be voted on, and it is not right to consider a new resolution now until the one introduced last year has been disposed of.

Dr. Petty: The amendment to the amend-

ment is the exact wording of the original with the exception that the original proposition provides for the publication of both the Journal and the Transactions, whereas the new one provides for the abolishment of the Journal and the continuation of the Transactions in a bound volume. It is the same matter in a new form, and can be acted on at this time.

Dr. Cooke: I think the entire discussion is out of order until the old question has been disposed of.

Dr. Petty: Dr. Cooke's point of order is not correct. The matter involves a change in the Constitution and By-Laws. It is now original matter, and must be considered.

Dr. Miller: I understood that it was an amendment Dr. Petty wanted to vote on.

Dr. West: Not an amendment, but the original question amended.

Dr. Bilbro: What was the question.

Dr. Petty: To provide for the publication of the Transactions in a bound volume at the end of the year. The amendment is not to discontinue the Journal, but to provide for the publication of the Transactions also.

Dr. Crook: Dr. Petty is in a peculiar position. We do not now want to discontinue the Journal. The easiest and best way out of it is to vote on Dr. Petty's first resolution and take up the other and vote on it tomorrow, with other new business.

Dr. Crook: Is it not written out?

Dr. Petty: Yes.

Dr. West: Can an amendment be made?

President Broyles: An amendment can be offered and acted on and still be within parliamentary rules.

Dr. Petty: The motion simply provides for the consideration of the Journal and Transactions, and I would like for the question to go before the House as to whether or not the Journal shall be continued, whether the Transactions shall or not, or both.

Dr. West: This is a question that should be carefully considered before a vote is taken on it, as there is quite a difference of opinion on the matter as to whether or not it is going to be wise to continue the Transactions and whether or not it will be pos-

sible to continue the Journal and the Transactions unless more income is assured.

Dr. Ragsdale: I was not a delegate last year, and I would like to thoroughly understand the intent of the resolution introduced last year before I can intelligently vote on it. I would like to hear the resolution that was introduced last year.

Dr. Petty: I introduced a resolution last year looking to discontinuing the Journal, believing it had not been a success and that it was impossible to maintain the Journal without carrying unethical advertising matter. Now, however, I am pleased with the Journal and with the favor it has met, and I do not now want to give it up if it can be made to pay expenses—but I would like to know if there is enough money coming in to continue the Journal at its present high standard.

Dr. Miller: The financial end should be looked into before the vote is put. I move that the Secretary read the resolution.

Secretary Bromberg then read Article 8 of the Constitution and By-Laws, and after finishing stated that the new amendment was simply a resolution having the Secretary issue a bound volume of the Transactions to all members.

Dr. West: I insist on voting on the original resolution.

Dr. McCabe: Is it not a fact that Dr. Bromberg now has authority to issue the Transactions this year? It is my understanding that Dr. Petty's proposed changes will simply allow what is now being done.

Dr. Miller here rose to ask the Secretary about the finances of the case, and stated that personally he cared nothing for the Transactions, because he kept all of his Journals and had them bound himself at the end of the year in a binding to match his other books and one that suited him personally. He asked how much it would cost for each member to pay for his own binding.

Secretary Bromberg: When I was elected to the office of Secretary last year it was clear in my mind that my predecessor, Dr. George H. Price, had done the best he could to make the Journal a success, but matters

had reached a point where the Journal was not giving satisfaction and I saw that it would have to be either improved or discontinued. It was obvious that it would not do to continue it in the old form, so I enlarged it. In order to do this it was necessary to increase the revenue. I collected something over \$2,000 and spent about \$4,000, but the present Journal compares very favorably with anything of a like nature published by any State organization in the United States. After going over what I considered the best that reached my office and comparing them, I finally decided to take as my model the Journal of the Indiana State Medical Association, and I made our Journal as near like it as possible. The Indiana State Association has a membership of 4,000. Tennessee has 1,500. The Indiana Journal has an income of approximately \$8,000. Tennessee had a little over \$2,000. What had been done for the Journal this past year has been done through my personal efforts, and by my personal solicitations of advertisements. I have the Transactions in my office all ready to be delivered if so ordered, but \$375 is the least possible estimate to cover the cost of binding, etc. Add to that cost for mailing, etc., and it will total \$1,000. If this extra burden is put on the Journal it cannot be materially improved, and will suffer if this amount is taken away from its support. I believe that the Journal can be made self-supporting in three or four years. I don't believe it can be done right away, but believe it *can* be put on a paying basis. If the Transactions and Journal are both published, it will be at the expense of the Journal. If the Journal is published, discontinue the Transactions. The State organization prints the Journal and furnishes it to each member. Personally I am opposed to the Transactions.

Dr. W. A. Bryan: Would it not be possible for the Secretary to have, say, 100 extra copies of the Journal printed each month and filed away so that if anyone wants another copy or has mislaid a copy, they can get another by simply writing the Secretary for it? I do not believe that 10 per

cent of the members save their Journals to be bound.

Dr. West: Representing the Chattanooga Academy of Medicine and the Hamilton County Medical Association: In the meeting at which I was elected a delegate, I was instructed to vote for the continuation of the Journal, and a motion was passed at this meeting to the effect that the Transactions would be an unnecessary expense. The Journals are read each month and are more important to the members of the Society than the Transactions.

Dr. Miller: If the Secretary was correct in his figures—and he should know more about these matters than anyone else—I, for one, would not care to see the Journal handicapped with the extra expense of publishing the Transactions—as, from the figures given, it would be a serious handicap. The Journal has been burdened with the Transactions for ten years, and I would like to see the matter postponed for a year or two to see what can be done with the Journal when not burdened with the Transactions.

Dr. McDonald: I move that we table the entire matter.

The motion was seconded and carried.

Dr. McDonald: I move that a committee be appointed to prepare a suitable Order of Business and that the committee appointed submit same to the House of Delegates at their next meeting.

The motion was seconded and carried.

Dr. Savage: Returning for a moment to the matter of the Transactions. There is one matter that must be disposed of: The material for the Transactions has accumulated, and I move that it be bound as cheaply as possible, in paper binding, and shipped to the County Secretaries for distribution to the members.

The motion was seconded and carried.

The report of the Auditing Committee was then called for, and Dr. Dotson read the following:

"We, the undersigned Auditing Committee, have examined the books of Dr. Perry Bromberg, Secretary, and find that he has received from his predecessor, Dr. George H. Price, \$65.35, and has collected during

the year \$1,930.45, making a total of \$1,995.80. He has disbursed during the year \$1,886.99, leaving a balance on hand, April 6, of \$108.87.

(Signed.)

"B. M. TITTSWORTH,

"B. F. FYKE.

"WALTER DOTSON."

"April 10, 1912."

Then the report on the Treasurer's books as follows:

"We, your Auditing Committee, have examined the report of Dr. W. C. Bilbro, Treasurer, and find that he has on hand and has collected during the year \$4,333.91, and has paid out for current expenses \$3,189.07, leaving a balance on this date of \$1,144.84.

(Signed.)

"B. M. TITTSWORTH,

"B. F. FYKE.

"WALTER DOTSON."

"April 10, 1912."

The report of the Councilors was here called for, and they were requested to make their own reports.

Dr. Fox, First District, was called, but was not present at the time and the President called for Dr. Miller, Second District.

"As Councilor for the Second Councilor District, I beg to report that during the last year Blount County has organized a society, with a small membership, representing the most prominent and probably the majority of the best physicians in the county. This leaves one county in this Councilor District, viz: Union, unorganized. This county is small and in a very mountainous country, sparsely settled, and I am afraid an active organization will not be practical in this small county. Further effort, however, will be made either to organize the county or to get its members to affiliate with an adjacent county. The societies in most of the counties of this district are doing splendid work for the upbuilding of the medical profession in their several communities.

"Respectfully submitted,

"S. R. MILLER, *Councilor*."

During Dr. Miller's report Dr. Fox en-

tered, and he was then called to report on the First District.

Dr. Fox: There are eleven counties in the First District. Five organized, but one not reported. During the year I have made every effort to organize these counties, and have personally visited two of them, but was unable to effect an organization. I find the most serious difficulty to be factional differences between the physicians. I am discouraged. Three other men have tried it, but they, too, were unsuccessful. Another reason is, most of the doctors live too far away from the towns to be in easy riding distance of the meetings and it is not possible to get men to attend. I would like to hear suggestions from some others as to the best way to organize these counties.

Dr. Richards, of the Third District, was then called, but was not present, and his report was passed.

Dr. Dotson, of the Fourth District, was then called.

Dr. Dotson: The Fourth District is one of the largest in the State, having fourteen counties. Of this number, all are organized but three, one of them having just recently been organized. The three unorganized are Trousdale, Clay and Fentress. Trousdale will never be organized. Some of the profession in this county, however, have been taken into the Macon County Society, and some into the Smith County Society, which next to organizing the county is, I think, the best thing to do. There are not enough physicians in Trousdale County to have an organization of their own. Clay and Fentress Counties are not yet organized, but I will try to bring them in during this year, though some of the profession in Clay County attend the Jackson County meetings. The profession in Fentress County can't be taught anything. I have not been able to get any kind of a report from any member of the profession in that county. I will not be able to organize Clay County, but I believe I will be able to get most of the men to attend meetings in surrounding counties.

Dr. Frierson, of the Fifth District, was then called to report:

Dr. Frierson: The Fifth District has seven counties. Of those organized, Marshall is the only one not reported this year, and I believe this was merely an oversight, as they had a very good county society six or eight months ago. Cannon, Coffee and Moore Counties are not organized. I have tried every way possible to get them organized, but without success. With one exception, I have not even had a reply to letters to various physicians in these counties. Also there is a feeling existing among the profession that an organization cannot survive, and if anyone will assist me in organizing these counties it will be appreciated. Cannon County has quite a number of physicians, but I never could do anything with them. If anyone can suggest to me some way to get at them I would be glad to hear it.

Dr. George H. Price, of the Sixth District, was then called.

Dr. Price: There are five counties in the Sixth District, three organized and two unorganized. The organized are Montgomery, Robertson and Davidson; the unorganized Stewart and Cheatham. Some of the counties organized have failed to carry on the work and several of the officials have failed from time to time to keep in touch with the State Organization. Montgomery County I find the most difficult to keep up interest. A few members are interested, and on these few rests the burden of keeping the organization alive. I have observed that some of the counties organize or reorganize from time to time and then fall out about the prominence of some particular member. I would suggest that the counties be allowed to appoint some one of their own choosing to assist them to a permanent organization. I have written repeatedly but have had no response. I would like to organize Cheatham County, but have been unsuccessful so far.

Dr. Abernathy, of the Seventh District, was then called.

Dr. Abernathy: The Seventh District is composed of the counties of Maury, Giles, Lawrence, Wayne, Hickman, Perry and Houston. Maury and Giles Counties have

maintained a county medical society for twenty-five years, but this does not apply to the other counties in the district. In fact, there was no other organization but these two until two years ago, when Lawrence was organized. Wayne, Hickman, Houston and Perry Counties are not organized and I do not believe they ever will be, for the reason that there are very few physicians in these counties, and it is impossible to do anything in the way of an organization. I have written to men in these counties from time to time, but have never been able to get a reply.

Dr. J. T. Herron, of the Eighth District, was then called for, but was not present and his report was passed.

Dr. O. Dulaney, of the Ninth District, was then called.

Dr. Dulaney: The Ninth District is one of the best sections in the State. There is no lack of interest among the profession in that section. It has been my experience that the men most seriously at fault are the County Secretaries. They get careless about notifying physicians about meetings. I had a letter from a physician some time ago stating that he had never been notified of any meetings to be held. The same thing applies to the whole district. I sent out a circular letter some time ago to the profession saying that I would be in Dresden on Labor Day to organize a County Society. I went over there and met some of the physicians and organized a county society of fourteen members. They are now doing very well. And right here I want to compliment the Chattanooga Academy of Medicine and the Hamilton County Medical Society. They know *how* to do things, and *do* them. My trouble has been that the County Secretaries fail to recognize the importance of their office. Dyer County has a medical society, and when the Secretary fails, I will perform his duties myself. There are forty members of the State Society who are not members of any county society, and it is my intention to call a meeting of all the County Secretaries, in Nashville or somewhere else, all get together and see if we can't bring them in. We must take more interest in the

election and selection of the County Secretaries.

Dr. Richards came into the meeting during Dr. Dulaney's report, and at the conclusion of same he was called on to report for the Third District.

Dr. Richards: The Third District is very large, comprising fourteen counties, but all very sparsely settled, some counties not having enough men to organize. Very little has been done during the past two years toward organizing because of no cooperation in any way. Seven counties are unorganized, and are so situated that they are impassable and have few, if any, doctors. VanBuren County, for instance, has only one doctor—and he could not very well organize. There are only three doctors in Pikeville. It is impossible to get a meeting place, because for even the nearest town the men would have to ride from twenty to forty miles, and not one of them will do it because they are all so smart that none of the others can tell them anything they do not know. Of course, if we could get some one like Dr. Dulaney or Dr. Bromberg to make some speeches for us, we might be able to do some good. Dr. Dulaney's district shows up well, but it is a small district. The best organized county in the State is White, with twenty physicians. Hamilton County is the next best organized, but it is not as good as White. Our greatest failing is that members will not affiliate. Franklin County could maintain a good organization and should be organized.

Dr. Gillespie, of the Tenth District, was then called.

Dr. Bilbro: We have twenty-one acting physicians, every one is a member of the State Society and nineteen are paid members, and there is not one on bad terms with another one.

Dr. Gillespie here requested that the Councilors have a meeting Thursday morning.

Dr. Fox: We have thirty-six physicians and thirty-one paid members.

Dr. Savage: I want to approve the suggestion made by Dr. Price that Councilors have authority to appoint assistants.

He was seconded by Dr. Bilbro.

Dr. Miller: I move that they have an assistant for each county.

His motion was seconded and carried.

Dr. West moved that the reports of the Auditing Committee be received and the committee discharged.

His motion was seconded and carried.

The meeting then adjourned until 8 o'clock Thursday morning.

Thursday, April 11—Morning Session.

The meeting was called to order by President Broyles at 8:40 a.m.

Dr. Bromberg: I want to call the attention of the body to the matter of books received by the Journal for review. It is the custom of publishers to send new books to the medical journals, and in this way the Journal has accumulated some forty or fifty books sent in for review. They are still on hand and some of them are very valuable. I want to recommend that these books be given to some central university, and would suggest Vanderbilt University.

Dr. McDonald: I know from experience that the Secretary does very much more work than he ever gets credit for, and I move that the books be donated to the private library of the Secretary.

His motion was promptly seconded and carried.

President Broyles then called for whatever reports had not been presented.

Dr. Gillespie stated that the Committee on Memoirs was not yet ready to report.

Dr. Bilbro: The memorial committee has not been informed of any deaths during the year.

Dr. Dotson: I have a little matter I want to bring before the body. In Sumner County there are some colored physicians that are licensed by the State Board of Medical Examiners to practice in Tennessee. In getting reciprocity it comes through the Secretary of the State of Tennessee. Negroes are not permitted to become members of the State Association, but no color is recognized by law. I would like to have something done to secure reciprocity between Tennessee and other States. The State Society does not recognize negroes in any way,

and I move that the Secretary of the Tennessee State Medical Association be authorized to give a certificate to any colored physician that wants to secure reciprocity, just as though he were a member of the State Society in good standing.

His motion was seconded.

Dr. Miller: We have nothing to do with reciprocity, and the Society has nothing to do with it in any way. It is merely a courtesy.

Dr. Abernathy: Reciprocity is a courtesy exchanged between States and recognized by law, the basis of agreement being that men receiving the courtesy shall be a member of the County and State Society and also a member of the American Medical Association, and he must have the endorsement of the Secretary of the County Society to the effect that he is in good standing.

Dr. McDonald: I see no objections to extending the favor to colored men of the profession, only that it puts him in the light of being a member in good standing of the Tennessee State Medical Association, which I do not approve of. I favor the extension of any favors to them that can be given without this.

Dr. Curtis: It puts us on record as saying the man stands well in the community.

Dr. Abernathy: The colored physicians recognize their own association members. For us to recognize them as full members would not be tolerated in this part of the country.

Dr. Dotson: It was not my idea that the men should become members of the Tennessee Association. Some colored physicians practice in good standing in their community, but want to move to another State and cannot do so because they cannot get reciprocity. My motion was that the Secretary be authorized to give them a certificate simply stating that they were in good standing, not as members of the Tennessee State Medical Association.

Dr. Bilbro: If reciprocity is extended, it should be through the State Board of Medical Examiners.

Dr. Abernathy: And then endorsed by the State Medical Association.

There being no further discussion, President Broyles put the motion and it was lost.

Secretary Bromberg: The question of the change of time of meeting has now laid over for twenty-four hours, and should be disposed of. The matter was introduced by Dr. Petty to change the date of our meetings because they interfere with meetings of other societies, and they have requested that we change our date. Our present date also conflicts with the State Association of County Health Officers' meetings.

Dr. Petty: After reading my resolution, I find that the first Tuesday conflicts with the County Health Officers' meeting, so I have changed the resolution to read the fourth Tuesday. It is not believed that it will then conflict with any other meetings in surrounding States. As it is, it conflicts constantly with other meetings, possibly preventing visitors from attending our meetings and our members attending other meetings they would otherwise attend. I hope the House will pass a resolution making the change.

Dr. McDonald: I move we adopt the resolution.

Dr. Ragsdale: There is one feature I want to call attention to. Not knowing very much about the reasons the meetings are held at Nashville every alternate year, I would like to be informed.

Some one said it was on account of the Legislature.

Dr. Ragsdale: In that case, then, we have waited too long to do anything from that source.

President Broyles then put the motion and it carried.

Dr. Gillespie, of the Committee on Memoirs, then reported the three following deaths: Dr. Beatty, of Memphis; Dr. S. L. Jones, of Knoxville, and Dr. Wm. A. Duncan.

He was then informed by some others at the meeting that Dr. E. S. Miller, R. H. Tatum and J. R. Jump had also died during the year.

Dr. Miller: I move that the Chairman of the Committee on Memoirs be instructed to write to the Secretary of each County So-

ciety and secure the names of members who have died during the year. It is very discourteous to let a member pass away without some recognition.

His motion was seconded and carried.

The report of the Nominating Committee was then asked for, but as they were not ready to report, the matter was deferred for a few minutes.

Dr. Petty: I believe we should discuss the question of the help of the Journal in organizing non-affiliated counties. I do not know what the plan of the Secretary is in this respect, but I believe that if the County Secretary would get up a list of the eligible members and send it to the State Secretary, the latter might have, say, 200 extra copies of the Journal printed each month and send them out from time to time to names selected from the list. I believe there are at least seventy-five members in Shelby County entirely eligible who are not members of the County Society, and I believe that if they were to receive a copy of the Journal now and then it would bring them over. I move that the Secretary accumulate a list of eligible members throughout the State and from time to time send them copies of the Journal.

Secretary Bromberg: I agree with Dr. Petty. I undertook this class of work and selected six counties that I knew to be poorly organized. In each county there were at least thirty doctors who were eligible. I even wrote personal letters and sent the Journal, too. I received less than 2 per cent of replies of any kind to my letters. However, the work is good, and I am in favor of the motion of Dr. Petty.

The motion was then put and carried.

Dr. Gillespie then reported as follows for the Nominating Committee:

For President, Dr. Wm. Krauss, of Memphis; Dr. O. Dulaney, of Dyersburg, and Dr. Battle Malone, of Memphis. For Vice-Presidents, Dr. E. C. Elliott, East Tennessee; Dr. W. J. Mathews, Middle Tennessee; Dr. G. L. Shipley, West Tennessee. For Secretary, Dr. Perry Bromberg, of Nashville. For Treasurer, Dr. W. C. Bilbro, of Murfreesboro. For Councilors: First Dis-

trict, Dr. C. P. Fox; Third District, Dr. A. F. Richards; Fifth District, Dr. W. G. Frierson; Seventh District, Dr. L. E. Ragsdale; Ninth District, Dr. O. Dulaney. For Delegates to the American Medical Association, Dr. A. B. Cooke, of Nashville, and Dr. S. M. Miller, of Knoxville.

Dr. Bilbro: Dr. Cooke is now filling the unexpired term of Dr. Crockett as Delegate to the A. M. A. The Secretary had it for two years, when, as a matter of fact, it was for only one year. Dr. Cooke is now to be elected.

Dr. Gillespie then continued with the nominations: Dr. George R. West, of Chattanooga, for East Tennessee, and Dr. Scott Farmer for Middle Tennessee, as Alternate Delegates to the American Medical Association.

Some one here raised a question as to Dr. Dulaney's eligibility for the office of Councilor when he had already been named as a candidate for the Presidency, and Dr. Miller raised a question as to the Vice-Presidency, stating that some one should be elected who had not formerly filled the office.

Dr. Gillespie then retired with the Nominating Committee to arrange these two matters. When the committee returned they named Dr. W. T. Black as Vice-President and Dr. E. T. Haskin as Councilor for the Ninth District.

President Broyles then appointed Drs. Miller and Petty as tellers of the ballot.

The result of the vote was as follows:

For President, Dr. O. Dulaney, 17; Dr. Battle Malone, 8; Dr. Wm. Krauss, 6, President Broyles then declared Dr. O. Dulaney, of Dyersburg, President of the Tennessee State Medical Association for the ensuing year.

Dr. Dotson here asked if the vote could not be made unanimous, and was informed that it was unconstitutional.

President Broyles stated that it was not necessary to ballot for the Vice-Presidents.

Dr. Petty: I move that the entire ballot be cast for Dr. Perry Bromberg, of Nashville, for Secretary.

Dr. McDonald: I second Dr. Petty's mo-

tion and move that the Secretary be instructed to cast the ballot of the entire body for Dr. Bromberg for the office of Secretary, and Dr. W. C. Bilbro for Treasurer.

Dr. Gillespie: I move that the Secretary be instructed to cast the ballot of the body for the election of the Vice-Presidents as named.

The motion was seconded and carried and Dr. Bromberg cast the ballot of the body for the Vice-Presidents as named.

Dr. Petty then stated that owing to the extreme modesty of the Secretary he had failed to declare himself elected, as he had been instructed, and moved that Dr. Bilbro be instructed to cast the vote of the body for Dr. Perry Bromberg as Secretary-Editor.

The motion was seconded and carried.

Dr. Bilbro: It is with much pleasure that I cast the vote of the body for Dr. Perry Bromberg, of Nashville, for the office of Secretary-Editor. He is the very best Secretary we have ever had or ever will have.

Dr. Dotson: I move that the Secretary now cast the vote of the body for Dr. Bilbro as Treasurer.

The motion was seconded and carried.

Dr. Bromberg: It is with just as much pleasure that I cast the vote for Dr. W. C.

Bilbro, of Murfreesboro, for Treasurer, as he found in casting it for myself.

Dr. Miller: Is there not also a vacancy on the Board of Trustees?

After some discussion it was decided that a vacancy did exist, and Dr. George E. Petty was elected to the position by the unanimous vote of the House, the President instructing the Secretary to so cast the ballot.

Dr. Miller: The duties of the Secretary-Editor are very heavy and are increasing, and the Society is not able to pay what he is worth, but the Board of Trustees should be requested to increase his annual pay in order that he can secure proper help. I move that the annual salary of the Secretary-Editor be increased \$250.

Dr. Bilbro: The Board of Trustees has authority to do this without a vote of the body, and the Board also directs the policy of the Journal.

Dr. Miller: I am aware that the Board of Trustees has this authority, but it will not be amiss to so instruct them, and I therefore insist upon my motion being considered.

The motion was duly seconded and carried.

On motion, the House then adjourned *sine die*.

THE JOURNAL

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EDITORIALS**THE CHATTANOOGA MEETING.**

The seventy-ninth annual session of the State Medical Association was a memorable one from every point of view. The attendance was unusually large. The local profession had made most admirable arrangements for the comfort of their guests and the entertainment

provided, both social and scientific, was of a quality which it will be difficult to equal in future.

A notable feature of the opening exercises was the address of welcome by Hon. H. Clay Evans, Commissioner of Health and Education, of Chattanooga. It was an inspiration to every physician present to hear this distinguished layman discuss the various problems of public health in a manner which showed a broad knowledge of the subject and an intimate sympathy with the ideals of those who labor for the promotion of the cause of public health. Eloquent and earnest in all he said, his effort on this occasion only served to increase the esteem in which the members of the profession, in common with the citizenship of the State in general, already held him. No finer exam-

ple of genuine patriotism can be found than for men of the character and attainments of Mr. Evans to voluntarily devote their talents to the perplexing and often sordid affairs of civic administration. Chattanooga is to be congratulated upon her Health Commissioner.

At the open meeting held on the evening of the first day a veritable feast was provided. Beginning with the splendid address of President Broyles, the exercises included addresses by Dr. C. W. Stiles, of Washington, who, on short notice, consented to fill the vacancy caused by the death of Dr. Musser, and by Dr. J. A. Witherspoon, of Nashville.

Dr. Stiles' address was a brilliant effort upon the unique subject, "A Cold-Blooded

Zoologic View of American Patriotism." The writer unhesitatingly expresses the opinion that this was one of the most noteworthy features of the entire meeting. Original in conception and impressively delivered, it marked Dr. Stiles both as a thinker and speaker of rare ability.

Dr. Witherspoon spoke with his accustomed eloquence upon

"Preventive Medicine." His reputation as an orator was fully sustained on this occasion, his address being peculiarly suited to the audience who heard it.

On the following day the scientific program was enriched by the excellent papers read by two distinguished visiting physicians, Dr. L. Webster Fox, of Philadelphia, and Dr. Jabez N. Jackson, of Kansas City. Both were enthusiastically received and

"DO IT NOW"

The Owen bill, providing for the establishment of a National Department of Health, has been favorably reported on by the Senate Committee, and is expected to pass at an early date. It is now Bill No. 561 on the Senate Calendar.

The same bill is pending in the House of Representatives, with a favorable outlook for early action.

Every physician who reads these words is earnestly urged to write to his Senator and Representative advocating the passage of this important measure. If the members of the profession will exert a telling influence at the crucial moment. DO IT NOW!

the authors extended rising votes of thanks.

Throughout, the program was of a high order of merit. A conspicuous evidence of the interest attaching to the various subjects presented was the unusually free discussion which followed the reading of practically every paper. As a result a goodly number of the papers on the program were left unread for lack of time. All will, however, be published in the Journal.

The work of the House of Delegates was conducted with despatch and without unpleasant friction. It is gratifying to record that the sentiment of the delegates was overwhelmingly in favor of continuing the Journal. In order that it might not be hampered by the question of cost during the coming year, it was decided to discontinue the publication of the transactions in book form. Those who desire the volumes can secure them at small cost by preserving their copies of the Journal and having them bound at the end of the year.

The officers elected and the several items of business transacted will be found recorded on other pages of this issue.

The social features of the meeting were unusually elaborate and enjoyable. The Chattanooga brethren proved themselves royal hosts. Reception, vaudeville and smoker, automobile rides and innumerable personal courtesies were included in the entertainment offered. A warmer welcome and more lavish hospitality could not well be imagined than those which the visiting members received at the hands of their colleagues and friends in the beautiful city at the foot of historic Lookout Mountain.

EXPLOITING THE PRESS.

PTOMAINÉ POISONING.

To the Editor of the Banner:

An article in your March 3 issue gives an account of Mr. H. A. Dodd, a well-known citizen, being afflicted with ptomainé poisoning. I believe no better work can be done by the press than to warn the public of the danger existing from partaking of foods not properly preserved, and the necessity of utilizing canned goods as soon as possible after opening the can. Scientific experiments have determined time and time again that numerous articles of food, when not kept in a hygienic condition, readily deteriorate so as to become poisonous substances.

The formation of ptomainé generally, although not always, accompanies putrefaction. Therefore great care should be taken that meat, fish, fowl, oysters, canned goods, etc., are eaten only when they are in good condition. It is not economy to partake of food when putrefaction has commenced. Food can be kept in hygienic condition either by heat or refrigeration, by the exclusion of air, or by the application of substances which, on account of their antiseptic properties, prevent the growth of poisonous germs.

Statistics show that since the enactment of the pure food law there have been 30788 cases of ptomainé poisoning, 1,295 of which were fatal. It is certainly distressing to think of this vast number of persons becoming ill and of so many innocent lives lost merely because food products are not preserved so as to keep them in a hygienic condition until consumed. Such distressing conditions will continue to prevail as long as consumers do not heed the warning of the danger existing in consuming foods not kept in a hygienic condition.

H. L. HARRIS.

New York, April 10.

The above, clipped from the correspondence columns of a Nashville newspaper of April 13, 1912, is a fair illustration of the methods pursued by food adulterators to create a sentiment against the National pure food law. To say nothing of the indelicacy of the communication, it is clearly intended to awaken distrust as to the efficacy of that beneficent measure. At the same time it seeks in a very adroit manner to foster the idea that preservatives in foodstuffs are not only harmless, but actually necessary for the protection of the consumer.

Examination into the source of this letter at once reveals some interesting facts. The H. L. Harris, whose name is subscribed, is not, as might at first glance appear, another Abou Ben Adhem, actuated strictly by love of his fellowman, but the *paid press agent* of the Pacific Coast Borax Company, usually known as the "Borax Trust." This concern has wares to sell, and in spite of the practically unanimous testimony of medical science as to the deleterious nature of boron compounds in human food, it proposes to sell them regardless of health considerations. Obviously an unscrupulous hireling with some literary ability could be of value to the company in its campaign against the pure food law, and "H. L. Harris," or, as his output is sometimes signed,

"H. H. Langdon," proved to be the man for the place.

At first the effort was made to exploit the medical publications throughout the country. Occasionally even yet a letter or inspired editorial may be found in the columns of a certain type of medical journals, but for the most part the effort along this line proved abortive. Attention was then directed to the newspaper field, which proved more easy of cultivation.

The scheme as now carried out is simple. Through a newspaper clipping bureau every notice of ptomaine poisoning chronicled is forwarded to press-agent "Harris" or "Langdon," who, under the guise of a philanthropist, proceeds to forward a "letter to the editor," changing the stock form just enough to make it apply to the case in hand. One can readily imagine the unholy glee of the writer when a careless or uninformed editor falls victim to the imposition.

It may be stated in this connection that comparatively few cases of newspaper "ptomaine poisoning" prove to be such when investigated. An occasional case of this kind is, of course, inevitable. But they must be few indeed and of relatively little significance in comparison with the immense amount of harm resulting from the use of decayed food products, the true condition of which was formerly concealed by the addition of borax compounds and similar preservatives.

Sordid Commercialism vs. The People's Health is the correct title of the issue now pending at the bar of public sentiment.

DR. WYLIE RESIGNS.

Dr. Harvey W. Wylie has resigned as chief of the Bureau of Chemistry, to which the enforcement of the National Pure Food and Drugs law is committed. Hampered from the beginning by incompetence and dissension in the Department of Agriculture, handicapped by antagonism among his immediate associates, hounded by malicious persecution from "the interests" which found him in their way, he yet had the splendid determination to remain on the

job until he and the policies he championed had received complete vindication at the hands of the Congressional investigating committee appointed to look into the affairs of his Bureau.

While it is true that no man is absolutely essential to any position, it is universally recognized that Dr. Wylie's place will be extremely hard to fill. It will be no easy matter to find a man possessing the requisite scientific and administrative qualifications who will interpret the duties of the office solely from the standpoint of the welfare of his countrymen. The wiles of the enemy are many and devious. A clear head no less than a courageous heart is necessary in this office to enable its occupant to pursue a course of strict justice uninfluenced by the many kinds of pressure brought to bear upon him from powerful and unscrupulous sources.

Dr. Wylie's resignation means a distinct loss to the American people. We are glad to note that he proposes now to continue to devote himself to the cause for which he so long labored in his official capacity, by informing the public of the true conditions with which he had to contend and of the obstacles which beset every effort to protect and promote the health of the nation. His utterances will be looked forward to with keen anticipation, and they will be received with fullest credence. No greater satisfaction could be desired by a retiring public official than to know, as Dr. Wylie knows, that the people whom he has tried to serve believe in him.

THE TITANIC DISASTER.

The recent loss of the S. S. Titanic off the coast of Newfoundland with more than sixteen hundred human lives, is the most appalling disaster in maritime history. The giant ship, the latest word in palatial construction and heralded as unsinkable, was provided with every appliance which has been devised for the safety of passengers, except the one most essential in this ghastly emergency, an adequate number of lifeboats.

It is easy, with the harrowing details of the tragedy fresh in mind, to criticise and censure, but it is far better to preserve an attitude of composure and be content with such comfort as may be found in the practical lessons taught by the terrible occurrence. One of these lessons is that the great nations acting in concert must and will exercise a closer supervision over the equipment and management of all ocean-going vessels. Those who perished with the Titanic will not have died in vain if thereby a similar catastrophe is rendered forever impossible.

Another comment which the occasion suggests, is that in the popular estimate the awfulness of death seems determined largely by purely accidental conditions and circumstances. The whole world stands aghast at the sacrifice of these sixteen hundred lives because of the spectacular setting, and because the sacrifice seems to have been so needless. Yet little notice is taken of the tens of thousands of lives lost annually which might be saved by the exercise of no greater prudence and care than would have been required in the case of the ill-fated Titanic. Perhaps the ocean horror will serve, to some extent, to temper the pace and sober the thought of the restless, hurrying masses everywhere, and as a result the individual life and its protection and preservation will come to be rated more nearly at their true value. If so, again, the victims of the Titanic disaster will not have lived and died in vain.

ANNOUNCEMENT.

Feeling the urgent necessity of strengthening the editorial department of the Journal, we cast about for a good man and are pleased to announce that after considerable pressure, we succeeded in securing the consent of Dr. A. B. Cooke, of Nashville, to serve as associate editor for the coming year.

Dr. Cooke is widely known for his strong and forceful editorials which have already done so much to bring this department of the Journal to the attention of our contem-

poraries and now, having him officially associated, we feel that this department may well be expected to bring even more fruitful results.

The editors recognize this to be your Journal and would invite and appreciate any criticism or suggestion touching the conduct of this as well as the other departments of the Journal.

B.

EDITORIAL NOTES.

The coming meeting of the American Medical Association at Atlantic City, June 4-7, should have a large attendance from all portions of the country. The many attractions of Atlantic City, apart from the meeting of the Association, offer more of diversion and enjoyment to the busy physician needing a change than any other resort in the country. It is hoped that there will be a large and representative attendance from Tennessee. Come on, boys, let's lay aside care for a week and attend this meeting. We will all be better for the rest and change—have clearer vision and be able to do better work when we return.

The Middle Tennessee Medical Association will hold its regular semi-annual meeting at Pulaski on May 16 and 17. This association is independent in every sense, and has done splendid work throughout the eighteen years of its existence. The hospitality of the Pulaski physicians is well-known. For this meeting they promise "to put the big pot in the little one." Dr. Hilliard Wood and Dr. R. L. Jones, both of Nashville, are President and Secretary respectively.

The Upper Cumberland Medical Society will hold its next annual meeting at Sparta on May 28 and 29. This is one of the live organizations of the State, and a feast of good things along every line is assured all who attend. Dr. J. T. Moore, of Algood, is President, and Dr. L. D. J. Ensor, of Cookeville, is Secretary.

DEATHS

Just before going to press we learn with regret of the death of Dr. John R. Muse, of Lexington. Dr. Muse was 78 years old, one of the oldest physicians of Henderson County, being a member of that County Society and the Tennessee State Medical Association for many years.

Dr. J. B. Murfree, of Murfreesboro, died at his home on April 24, after a protracted illness, aged 76.

Dr. Murfree was an ex-President of the Tennessee State Medical Association. Aside from this fact, his splendid life and character call for a more extended notice than can be given in this issue. We hope to be able to reproduce a photograph and publish a full sketch of his life in the next number.

Dr. Mercer McCrary, of Woodbury, aged 34 years, died in Louisville, Ky., April 23, as a result of a surgical operation which he underwent on the 19th of April. Dr. McCrary was a graduate of the medical department of Vanderbilt University, and had been serving six years as County Health Officer for Cannon County.

Dr. E. H. Bratten, age 73, of Lafayette, Tenn., died April 30. He is survived by his wife and five children.

Dr. S. H. Bellamy, one of the oldest and best known physicians of Montgomery County, died at his home in Clarksville on April 13.

Dr. A. L. McNees, aged 57 years, died April 15 in Memphis, where he had practiced medicine for many years. The remains were shipped to Brownsville, Tenn., for burial. He is survived by his brother, A. R. McNees, of Memphis.

Dr. James Thornley, of Nashville, aged 93 years, died April 15 at his home, 1121 Fourth Avenue, North. He is survived by his son, J. P. Thornley, of Nashville.

Dr. William Hewitt, well known throughout the South as an eminent specialist in pediatrics, died at his home in Memphis, March 21, aged 91 years. Three years ago Dr. Hewitt suffered a paralytic stroke and was rendered practically an invalid. He has been a resident of Memphis more than half a century.

Dr. W. G. Raines, of Parsons, Decatur County, died March 25 of pneumonia, aged 76 years. Dr. Raines was the oldest physician in his county, and was loved by all who knew him. He is survived by his wife and four children.

NEWS NOTES AND COMMENT

Dr. George H. Ashley, former State Geologist of Tennessee, left Nashville, March 1, for Washington, where he began his work as coal expert of the United States Government. Dr. A. H. Purdue, of the University of Kansas, was appointed to fill the vacancy left open by Dr. Ashley's departure.

Dr. Ashley's family will remain in Nashville for the present until arrangements may be made for their removal to Washington.

We are pleased to report the recovery of the daughter of Dr. W. A. Bryan, of Nashville, and Mrs. Richard Douglas, wife of the late Dr. Richard Douglas, from attacks of cerebro-spinal meningitis. Both, we are glad to say, recovered without complications.

Dr. J. W. Scheibler, of Memphis, was appointed by Governor Hooper as a delegate representing Tennessee at the International Tuberculosis Conference, which was held in Rome, Italy, in April. Mrs. Scheibler accompanied him.

By unanimous vote the House of Delegates ordered the Journal to be continued. We urge the County Secretaries to give us their assistance, and promise to exert our best efforts in its behalf.



JOHN HERR MUSSER, M.D., LL.D.

JOHN HERR MUSSER, M. D., LL. D.

John Herr Musser, M.D., LL.D., died at his home in Philadelphia on April 3 of angina pectoris, in the 56th year of his age.

Graduating from the University of Pennsylvania in 1877, he immediately located in Philadelphia, and in a comparatively short time was numbered among the city's most prominent and successful physicians. He was one of the fortunate young men who received training and inspiration from the illustrious Prof. William Pepper, and his whole career reflected the influence of the old master.

Dr. Musser's reputation lay chiefly in the departments of diagnosis and internal medicine, in both of which he was a recognized authority. He was a teacher in his alma mater throughout the whole of his professional life, occupying the chair of clinical medicine at the time of his death. In the midst of his exacting duties as teacher and widely-sought physician and consultant he found time to contribute frequently to current medical literature, and, in addition, was the author of a popular work on diagnosis and a number of monographs on internal medicine.

The many exacting activities of his professional life did not prevent Dr. Musser from recognizing his obligations as a citizen. He was a leader in social service work in his home city, and gave liberally of his time to the promotion of every worthy enterprise for the advancement of public health and the amelioration of social conditions.

Dr. Musser was elected President of the American Medical Association at the New Orleans meeting in 1903; he was also honored with the highest official position in numerous other medical and scientific societies. He was President of the National Medical Library Association at the time his life-work ended.

The death of Dr. Musser was especially distressing to the members of the Tennessee State Medical Association. He had accepted an invitation to deliver the address on medicine at the Chattanooga meeting on April 10, and his name appeared on the official program. The announcement of his sudden death brought a shock and a sense of personal loss which were felt by every member in attendance.

American medicine has lost one of her greatest leaders. Peace to his ashes!

Recent experience in Nashville with the relatively few cases of meningitis shows the need for an isolation hospital more forcibly than anything which has occurred since the cholera epidemic in 1873. Private hospitals and sanatoria refuse these cases and the city hospital we think correctly refuses to admit them.

New life has been injected into our Association. The Councilors promise to soon get busy and we propose to have every available and reputable doctor in Tennessee a member of the State Association. Much depends upon the Secretaries, but members are expected to do their duty also. Doctor, can't *you* induce some non-affiliated member to join?

Dr. J. A. Witherspoon, of Nashville, a member of the Council on Medical Education of the American Medical Association, delivered the principal address before the Alabama State Medical Society at their annual convention held in Birmingham, Ala. His subject was "Medical Education and Medical Sanitation."

Governor Hooper has reappointed Dr. W. L. McCreary, of Knoxville, to succeed himself as a member of the State Board of Medical Examiners for another term.

Adjutant-General Frank Maloney has placed a requisition with the War Department for one complete equipment for a field hospital to accommodate one hundred patients. General Maloney says this hospital will be available in case of floods, fires or calamities which may necessitate immediate hospital facilities.

The Tennessee Health Officers' Association, which met in Nashville, April 2, 3 and 4, was well attended, and from the earnest work which was done much good may be expected. The program was an excellent one, both in its scientific and social aspects, and those attending report it an unusually profitable and pleasant meeting.

The following officers were elected for the

ensuing year: President, Dr. W. E. Hibbett, Nashville; Vice-President for East Tennessee, Dr. J. F. Arnold, of Washington County; Vice-President for West Tennessee, Dr. C. T. Love, of Crockett County; Vice-President for Middle Tennessee, Dr. T. O. Bratton, of Wilson County; Secretary and Treasurer, Dr. John S. Steele, of Chattanooga.

The Rockefeller Sanitary Commission met in Nashville during the meeting of the State Health Officers' Association and many members of the commission participated in the program.

The Nashville Academy of Medicine entertained with a banquet at the new Tulane Hotel, the visitors to the city in attendance upon the State Health Officers' Association and the Rockefeller Sanitary Commission on Tuesday evening, April 2.

The newly elected President of the Academy, Dr. R. E. Fort, of Nashville, acted as toastmaster, and fitting responses were made by Dr. C. W. Stiles, of Washington, D. C.; Dr. Freeman, of Virginia; Dr. Lewis McMurtry, of Louisville, Ky., and Dr. John A. Witherspoon, of Nashville.

Dr. L. S. McMurtry of Louisville, Ky., addressed the Nashville Academy of Medicine at its meeting on April 2. His subject was "Pasteur." That the subject was capably handled needs no emphasis. Those privileged to hear it were unanimous in pronouncing it a masterpiece.

Nine rahs for the boys in Chattanooga. Their hospitality has never before been equalled, and we predict it will be a long time before it is excelled.

Dr. Allen J. Moore, of Memphis, spent a few days recently with his mother at Brentwood.

Dr. Therman F. Givan was a recent visitor to Trenton, where he attended the wedding of Mr. Carlyle Nuckalls and Miss Tommie Ingram.

Dr. W. E. Hibbitt, Nashville's genial health officer, has returned from a three weeks' stay in Clear Water, Fla.

A bronze tablet was unveiled in honor of Dr. Crawford W. Long, at the Medical Department of the University of Pennsylvania, on March 30, marking the seventy years since his discovery of ether and its practical application in the above institution. Dr. Long was born in Danielsville, Ga., in 1815, and died at Athens, Ga., in 1878.

Interesting graduating exercises were held at the Woman's Hospital, Nashville, on the evening of March 22, when seven young ladies received their diplomas as graduate nurses. The entire lower floor was attractively decorated with spring flowers and palms and numerous gift bouquets. Addresses were made by Mrs. Felix Ewing, President of the Board; Mrs. M. C. McGannon and Mrs. Richard Dake, after which a musical program was given.

The graduates were: Misses Sadie Colsher, Lillian and Willie Crabtree, Lent Hines, Nannie Shelton, Myra Roper and Mrs. Susanna Rodecker.

The State Board of Health is urging the newspapers to cooperate with them in educating the public against certain infectious diseases, such as the so-called "summer diseases," typhoid, dysentery, malaria, etc.

They hope to publish daily short articles on these subjects, and in this way instruct the people regarding the prevention of these diseases which are so prevalent during the summer season.

The Business Men's Club, of Union City, at their annual banquet, March 4, discussed the probability of erecting a city infirmary for that place.

Dr. Joseph W. Cowan and wife, of Dandridge, Tenn., were patients at the Lincoln Memorial Hospital, of Knoxville.

MARRIED.

The marriage of Miss Ella Sumpter,

daughter of Dr. and Mrs. E. R. Sumpter, of Pulaski, Tenn., to Mr. William Wyker, took place at the Pulaski Presbyterian Church on the evening of March 1.

The wedding of Miss Mary Osborne, daughter of Dr. and Mrs. J. F. Osborne of Trenton, Tenn., to Mr. R. K. Record, of Paris, Texas, took place at the home of the bride's parents, April 18.

SOCIETY PROCEEDINGS

ROANE COUNTY.

A very interesting session of the Roane County Medical Society was held in the parlors of the Hotel Cumberland, Harriman, at its last regular meeting, March 18, 1912.

The following members were present: Drs. J. M. Clack, W. S. Clack and Nelson, of Rockwood; Goodwin, Givan and Hill, of Harriman; J. J. Waller, of Oliver Springs, and G. P. Zirkle, of Kingston. Visiting physicians were Drs. Phillips and McNutt.

The following papers were read and interestingly discussed by those present:

"Broncho-Pneumonia in Children," by Dr. W. S. Clack.

"Pleuritic Effusion," by Dr. G. C. G. Givan.

"Pertussis," by Dr. J. M. Clack.

"Why Do We Eat and What Should We Eat?" by Dr. J. B. Goodwin.

"The Tonsil," by Dr. W. W. Hill.

The next regular session will be held in Harriman the third Monday in June.

W. W. HILL, M.D., *Secretary*.

SUMNER COUNTY.

The Sumner County Medical Society met in regular session at the court house in Galatin, May 1, with one of the best attendances in the history of this society. The program and discussions were very interesting and enthusiastic.

WALTER DOTSON, M.D., *Secretary*.

WASHINGTON COUNTY.

The society met with Dr. West. The following members were present: Drs. Ran-

dall, President; Long, Sells, Kennedy, Broyles, Matthews, H. D. Miller and West.

Under clinical head Dr. H. D. Miller reported a case of warty growths in the vagina and vulva of a young pregnant woman, and requested suggestions as to what treatment was advisable. Dr. West reported a case of double tubular pus infection, radical operation, with hysterectomy. Dr. Sells read a paper on "Croupous or Lobular Pneumonia," giving an exhaustive history, etiology, pathology, diagnosis, complications, prognosis and treatment. Discussed by Drs. Long, West, Matthews, Miller, Broyles, Randall, and closed by Dr. Sells.

Dr. Broyles offered the following: That the delegate to the Tennessee State Medical Association be and is hereby instructed to vote against the amendment to the constitution, as proposed and passed in 1911, amending Article VIII, abolishing the Board of Trustees of the Journal, the import of which is to discontinue the publication of the Journal of the Tennessee State Medical Association. Dr. Matthews seconded the motion, which was unanimously adopted.

Dr. Sells moved that we amend the by-laws so as to provide for semi-monthly meetings. Lost.

Moved by Dr. West that any resident member failing to attend as many as three meetings in a year, or who is continuously absent for six months, without reasonable excuse, be dropped from the rolls of membership. Seconded by Dr. Broyles. Rising vote and unanimously adopted.

The society then adjourned.

J. W. Cox, *Secretary*.

TWO STANDARD, OFFICIAL THERAPEUTIC REMEDIES.

The following two official preparations have much to recommend them. They are here commented upon at this time because they are seasonable and because they are worthy the confidence of every physician. They are meritorious products, and, as made by the capable pharmacist have a maximum of therapeutic efficiency.

The Compound Syrup of Senna, N. F., represents in each average dose the virtues of 16 grains of Senna and 4 grains each of Rhubarb and Frangula (Buckthorn). It contains 60 per cent of Sugar, and the Alcohol content is 17 per cent. It is flavored with Oil of Gaultheria.

The average dose is 8 Cc. (2 fluid-drams), preferably administered upon retiring, and full doses are recommended. This syrup is a most excellent example of rational medication, the compound being a fine blend of three efficient laxatives in palatable form. The addition of some simple bitter, as Gentian or Colombo, increases its activity.

This syrup is an active, safe and pleasant cathartic, free from griping, and has also feeble hepatic stimulant powers. The secretions of the stomach and intestinal tract are increased by its use, and the peristaltic movements are stimulated in direct proportion to the size of the dose.

This preparation is one of the many that affords a striking example of the fallacy of "active principle" medication, as recommended by some. The three chief ingredients of this syrup, Senna, Rhubarb and Frangula, contain emodin, chrysarobin and chrysophanic acid, all glycosides. The cathartic effect is not produced by these, but by their decomposition product, "oxymethyl-anthraquinon," produced by hydrolysis, or by oxygenation in alkaline solution.

These glucosides, and especially the last two mentioned, are entirely too irritant to be available as cathartics in their pure form; but in their natural state of combination in the drug this irritant action is tempered by the presence of colloid extractive. Thus the decomposition goes on slowly and action never progresses to inflammation. This fact makes this preparation, therefore, especially valuable when a purgative is to be taken habitually.

It may be advisable to acquaint the patient with the fact that this preparation will color the urine yellowish brown, or reddish, or violet—yellowish brown if the urine is acid, and reddish or violet when it is alkaline.

Sulphon Ethyl Methane (abbreviated

"Sulphon et Met") is a definite chemical substance, an oxidation product of mercaptol. Trional is the commercial name by which it is often known and sold.

It occurs in colorless, crystalline and lustrous scales, without odor, or a somewhat bitter taste, and practically insoluble in cold water (soluble in 195 parts of cold water).

This substance belongs to the hydrated chloral group of analgesics and soporifics, and, relatively speaking, is one of the safest of the group. It does not affect the heart directly, although its depressant action on the inhibitory center may cause a slight acceleration of the pulse.

It lessens the metabolism through its action on the central nervous system, but it does not produce such notable change in the proteid decomposition as results from the administration of hydrated chloral.

It is slowly decomposed in the body, being excreted largely as ethylsulphonic acid in the urine.

DOSAGE AND ADMINISTRATION.

The dose of Sulphon Ethyl Methane is from 1 to 2 grammes (15 to 30 grains), the size of the dose naturally depending upon the age and condition of the patient.

Its action is more prompt and more pronounced than that of its near group member, Sulphonmethane (Sulphonal), besides being almost entirely free from cumulative action or unpleasant after-effects.

It is best administered in cachet or powder form, followed by a drink of hot water or hot milk, or it may be suspended in the latter fluid. The cachet form, followed by hot milk, is preferable, however. Pills and tablets of this drug are to be avoided, owing to their uncertain action. It should be administered at least thirty minutes before it is expected to act, owing to its somewhat slow absorption.

It acts admirably as a hypnotic in most cases, but its efficiency decreases with continued use. Ordinarily it should be discontinued at the first sign of toxic action, which, however, is seldom manifested with proper dosage. As a tolerance for the drug is readily acquired, its administration

should never be continued over any great length of time.

Some combinations suggested by eminent practitioners are the following, although, as a rule, Sulphonethylmethane is at its best when used alone as a pure hypnotic:

It may be combined with a small dose of Morphine, in proportion to suit individual cases, in those cases of insomnia due to neuralgia and nervous excitement.

It may be combined with Sulphonmethane in equal proportion, say 10 grains of each, where a more prolonged sleep is desirable, the Trional producing early sleep, while the Sulphonal effects are manifested later, being more slowly absorbed.

It may be combined with Acetanilide or Acetphenetidin when pain is present.

It may be used as an alternating substitute for the bromides in epilepsy.

BOOKS RECEIVED AND REVIEWED.

PROGRESSIVE MEDICINE, a Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College, Philadelphia, assisted by Leighton F. Appleman, M.D., Instructor in Therapeutics, Jefferson Medical College, Philadelphia. Volume XIV, No. 1, March 1, 1912. Six dollars per annum. Lea & Febiger, Philadelphia.

SURGICAL CLINICS OF JOHN B. MURPHY, M.D., Vol. I, No. 2, at Mercy Hospital, Chicago. Octavo of 291 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1912. Published bi-monthly. Price per year, paper, \$8.00; cloth, \$12.00. W. B. Saunders Company, Philadelphia and London.

RECENT METHODS IN THE DIAGNOSIS AND TREATMENT OF SYPHILIS (The Wasserman Serum Reaction and Ehrlich's Salvarsan). By Carl H. Browning, M.D., Lecturer in Clinical Pathology, University of Glasgow; Director Clinical Research, Western Infirmary of Glasgow, and Ivy McKenzie, M.S., B.S., M.B., Ch.B., Directors of Western Asylums' Research Institute, Glasgow; Physician to the Out-Patient Department, Western Infirmary, Glasgow. In collaboration with John Cruickshank, M.B., Ch.B., and Chas. G. A. Chislett, M.B., Ch.B., Walter Gilmour, M.B., Ch.B.; Hugh Morton, M.B., Ch.B., with an introduction by Robert Muir, M.A., M.D., F.R.S., Professor of Pathology in the University of Glasgow. Lea & Febiger, Publishers, Philadelphia.

The careful study of so valuable a contribution as is presented in the above volume, has been of inestimable benefit to the reviewer, who unhesitatingly expresses himself as being charged, both with the wealth of information contained and the manner in which it is presented.

In the fifty pages or so devoted to the Wasserman test, the reader will find a wealth of interesting facts, taken principally from the experience of the writers or gathered from the literature upon the subject.

The application of Ehrlich's discovery in the treatment of syphilis is so clearly discussed that it would be out of place to say anything more in connection.

Those fortunate enough to read the book will not fail to realize the stupendous labor expended by the writers in carrying out the researches recorded.

No man who in this day attempts to diagnosis and treat syphilis by modern methods can afford to be without this little volume.

P. B.

NEW AND NON-OFFICIAL REMEDIES. Price, cloth, 50 cents; paper, 25 cents. Pp. 298. Chicago: American Medical Association, 1912. This book contains descriptions and a statement of the actions and uses of all articles which have been examined and accepted by the Council on Pharmacy and Chemistry prior to January 1, 1912, for inclusion in the list of New and Non-official Remedies.

The book is unique. The work of the Council during its seven years of existence and the reports of the Propaganda Department of the Journal A. M. A. have convinced the physician that in the prescribing of proprietary remedies he must be more careful in his selection of those which he directs for his patients. Nowhere else can the physician or the pharmacist turn for reliable, unbiased information concerning the new remedies. This book enables the physician to make such selection and the careful pharmacist to know the character of the remedies he dispenses. It should be in the hands of every one of them.

A MANUAL OF PRACTICAL HYGIENE. For Students, Physicians and Health Officers, by Charles Harrington, M.D., late Professor of Hygiene in the Medical School of Harvard University. Fourth edition, revised and enlarged by Mark W. Richardson, M.D., Secretary to State Board of Health of Massachusetts. Octava, 850 pages, with 124 engravings and 12 full-page plates, in colors and monochrome. Cloth, \$4.50 net. Lea & Febiger, Philadelphia and New York, 1911.

The previous editions of this excellent work on Practical Hygiene were rapidly exhausted and Dr. Harrington foresaw the demand for another revision which he had begun before his unexpected death in 1908. The book, however, has been brought up to date by Dr. M. W. Richardson, who has won an enviable reputation as a clear and concise writer.

The book is a rather large volume of more than eight hundred pages, which deals technically with foods and food stuffs, devoting nearly one hundred pages to milk and milk products. Vegetable foods, beverages, condiments, food preservation and contamination comprise the first chapter. Air, the soil and water are considered in minutest detail in the succeeding three chapters. The very important and practical application of sanitary science to habitations, schools, etc., are concerned in ventilating, heating, lighting and plumbing are discussed in Chapter V. Disposition of sewage and garbage are allowed two chapters, 6 and 7. Chapter 8, dealing with disinfectants and disinfection, is one of the most important and highly practical chapters to be found in any text-book on this subject.

To military, tropical, naval and marine hygiene, chapters 9, 10 and 11 are devoted.

The relation of insects to human disease, hygiene of occupation, vital statistics and personal hygiene are found in chapters 12, 13, 14 and 15. The remaining four chapters being devoted to such subjects as infection, immunity, susceptibility, vaccination, smallpox, quarantine and the disposal of the dead.

The work is unquestionably complete, clear and concisely written, and should be in the library of every well-informed physician.

P. B.

THE JOURNAL

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NUMBER 2

MEMBRANOUS PERICOLITIS AND AL- LIED CONDITIONS OF THE ILEO- CECAL REGION.*

JABEZ N. JACKSON, A.M., M.D.,
KANSAS CITY, MO.

To every surgeon probably has come, once or oftener, the humiliating experience of operating upon a patient for what he had carefully diagnosed as chronic appendicitis, only to find, after removal of the appendix, that the symptoms persisted without improvement. Ofttimes the primary operation has been supplemented by a drainage of the gall-bladder, or, if the patient be a woman, by removal of an ovary. And still the patient experienced no relief. Somewhat similar experiences have followed the surgical history of supposed gastric ulcer where gastro-enterostomy, in the absence of demonstrable pyloric obstruction, has proven so disappointing. To palliate our failures in these operations about the appendix, gall-bladder and stomach we have been wont to fall back on the all-embracing diagnosis, neurasthenia, which enabled the surgeon to smoothly edge from under the load of responsibility, but left the patient hopelessly mired in the slough of despond.

Such experiences naturally have been exceedingly distressing to the conscientious surgeon and have correspondingly stimu-

lated our zeal in efforts to avoid similar errors and, better still, to discover some solution of our dilemma. Closer observation of pathological conditions, wider investigation of the accessory surgical field and more exacting analysis of symptoms have thus become imperative. And today we are beginning to reap the fruit in the definition of other lesions which explain our former errors of diagnosis and point the way to possible rescue from despair of many of the unfortunates.

MEMBRANOUS PERICOLITIS.

In 1908 the writer presented to the Western Surgical Society some observations of certain pathological changes found about the right colon to which he applied the descriptive name "Membranous Pericolitis," or "The Pericolic Membrane." These conclusions were the culmination of isolated individual observations of about six years. The first observation was made in 1902, in a case with the following history:

The patient was first seen by us when a probationary nurse in the University Hospital of our city several years ago. We were then consulted for what was supposed to be an acute exacerbation of a long standing case of chronic appendicitis. She gave a history of a number of previous attacks. In each case she had suffered from pain and distress over her entire right abdomen, though more particularly referred by her to the site of the appendix. In none of

*Address in surgery delivered by invitation, before the Tennessee State Medical Association, Chattanooga, Tenn., April 10, 1912.

these attacks had she had temperature or pulse disturbances, in fact, none of the characteristics of an acute appendicitis or peritonitis. She had gone to bed, however, frequently for a day just from pain and discomfort. She said that she had never felt entirely comfortable in her right side for years, but did reasonably well except when these severer "spells" came on. She was a very attractive young woman in her personality and quite intelligent, though of a decidedly high strung temperament and somewhat neurotic. She described her symptoms very freely, in fact, was more fluent than is the average woman in portraying her complaints. We found her with a normal pulse and temperature. On palpation she complained of tenderness all over the right abdomen, was indeed quite hyperesthetic. There was no rectus rigidity. Her greatest tenderness she located about the appendicular region in general, but we could not focalize to a finger point. We fell in quite readily, however, with a diagnosis of chronic recurrent appendicitis and recommended operation upon her recovery from this "spell." There was no suggestion of urgency. When she got up, however, still being a probationer, the superintendent of nurses decided not to accept her in training, as she considered her too neurotic to make a satisfactory nurse. She therefore left the hospital and we did not see her again for three or four years. She then came to Kansas City from her home in Iowa, where she had married and then lived, to consult us again. We then learned that in the interval she had been operated upon by a distinguished surgeon, whom we knew, and had had her appendix removed. She obtained no relief from the operation, however, and continued to suffer as before. A second operation was done and one of her ovaries removed. She obtained no relief, and with this history she returned to us. On examination, with the appendix and one ovary gone, we could find no explanation for her continued symptoms. She was therefore referred to one of our leading internists, who sent her back again saying that the other ovary was diseased and should

be removed. We could not confirm this diagnosis ourselves, but she insisted on relief and we consented to operate on the diagnosis of our medical confrere. Operation disclosed the one remaining ovary perfectly healthy. A perfectly healthy broad ligament was found on the side from which the ovary had been removed. We then decided to inspect the site of the appendix. Here we found a perfectly smooth caecum at the site where the appendix had been with not the slightest adhesion of any kind. Above the appendix, however, indeed really above the caecum about the colon, our attention was strikingly attracted to the condition with which this paper is concerned. Here we observed what looked like an entirely complete new layer of peritoneum, perfectly transparent, investing the colon from above the caecum to the hepatic flexure. This membrane was very loosely attached but moved freely over what appeared to be the normal peritoneal coat of the colon beneath. This membrane was also made striking by a large number of what appeared to be small capillaries, bright red in color, running as parallel pink threads in the direction of the axis of the colon. These capillaries appeared to run in similar parallel delicate strands of fibrous tissue. The whole tissue resembled very much a veil which moved rather freely over the face of the colon beneath. This membrane appeared to come on to the colon from the outer parietal wall into which it quietly faded away and above the hepatic flexure of the colon became lost in the transverse mesocolon. The membrane covered also the whole of the circumference of the colon and imperceptibly became lost in the inner side of the colon and the inner parietal peritoneum. The whole right colon was rather closely confined in the lumbar fascia and could not readily be pulled forward. Likewise it seemed distinctly shortened in its long axis and at places presented a pleating with the delicate fibrous strands of the investing membrane passing straight across from one fold to the other. It thus appeared as though the colon was restricted both as to the action of its circular and its

longitudinal fibers and more or less immobilized to the posterior abdominal wall. There were no adhesions between the colon and any contiguous structure and the membrane did not strike us as analagous to an adhesion in any sense. It looked instead as we have described as a new adventitious, vascularized, investing layer of peritoneum. At the time of this, our first observation, it impressed us as some sort of an anatomical freak which we in no way associated in our mind with the woman's complaints. We made no attempt, therefore, to deal with the membrane in any way and with the simple observation of its peculiar appearance closed the abdomen. The patient was, of course, not improved in the least by our operation, though we were satisfied now with a diagnosis of neurasthenia and placed her malady in her head and not in her abdomen.

In the course of years both before and since this case we can recall several cases of somewhat similar picture in which we have operated with a diagnosis of chronic appendicitis and removed the appendix—but without the expected relief to our patient. These cases being always considered uncomplicated chronic appendicitis, were operated with a very small abdominal incision and the colon was not seen at all. The real condition in these cases is as yet conjectural, as we have had no opportunity to reoperate in any of them. In the light of other demonstrated cases, however, we now have a strong suspicion that this same pericolic membrane could be found in at least several of them.

Following this interesting case, however, we operated in several cases of somewhat the same type and with the diffused symptoms were in doubt as to whether the trouble lay in the appendix or in the gall-bladder. In several such cases, in order to expose both sites through the one opening, we made a free right rectus incision midway which could be enlarged in either direction as found necessary. This incision thoroughly exposes the ascending colon. In several of these operations we found both appendix and gall-bladder perfectly normal, but to

our surprise and interest again observed this same peculiar pericolic membrane.

In review of these several observations we became convinced that herein lay a certain very absolute pathological condition of more or less frequent occurrence. We were sure that similar observations must have fallen under the eye of practically every surgeon of any considerable experience, though none, so far as we knew, had given the matter any special consideration in pathologic description nor recognized it as a condition of any common occurrence or clinical significance. The only article bearing on this subject which had come under our attention was a brief one by our fellow surgeon, Binnie, on "Pericolitis Dextra," undoubtedly referring to the identical condition, but viewing these changes simply as adhesions, as doubtless had the other many observers. This general conception had led to rather cursory attention with the general assumption of antecedent appendicitis, and the hope of relief by ordinary appendectomy. In our opinion, however, we had to deal with a condition of rather more definite pathological specificity the exact origin and nature of which should become a matter of moment.

PATHOLOGICAL DESCRIPTION.

In 1908, at the Kansas City General Hospital, we were fortunate enough to find a well marked case in a patient dying of other causes, but with history of this type. This specimen was removed and submitted to careful examination by the pathologist, Dr. Frank J. Hall, who reported as follows:

"The specimen of ascending colon which you presented to me as a type of the pericolitis you have been interested in exhibits the following gross and microscopic features, the specimen presents the caput coli, with attached appendix, the ascending colon and a short segment of transverse colon.

"From a point just at the hepatic flexure to three inches above the caput there spreads from the parietal margin over the external lateral margin to the internal longitudinal muscle band a thin vascular veil in which long, straight, unbranching blood

vessels course, most of which are parallel with each other and take a slightly spiral direction over the colon from the outer upper attachment to the inner lower portion of the gut, ending just above the caput. The appendix is not implicated in any way.

"Coursing with the blood vessels are numbers of shining narrow bands of connective tissue which gradually broaden as they go and end in a slight fan-shaped attachment at various points on the anterior and inner surfaces of the colon. At these points of attachment the gut is held in rigid plication.

"The entire specimen conveys to the eye the idea that an oedematous fluid lies beneath this delicate membrane and reminds one of nothing so much as an edematous arachnoid so often encountered on removing the duramater from the brain of a dead alcoholic. The colon seems placed in a diaphanous bag slightly too short to contain it without wrinkling. At the beginning of the hepatic flexure the drawn membrane particularly angulates the contained colon. Here and there are spots and tags of fat beneath the cobweb. On handling the specimen the colon slips about in its bag without entire freedom as a foetus within its amniotic sac. A portion of the parietal peritoneum has been removed with the colon and shows that the membrane and blood vessels arise in and are continuous with the structures of the parietal peritoneum, as it sweeps over the colon. The entire structure seems to be peritoneum, loosened from its close connection to the abdominal wall and colonic surface by some serous exudate after which the particular vascularization and connective tissue banding has occurred as a chronic reaction to irritative influence.

"Microscopic sections prepared from blocks of tissue cut entirely through to the lumen of the colon present, first, a very loose external covering, a normal musculature, a broad submucosa, and a normal glandular coat. Our chief interest lies in the serous coat which is seen to have its fibers split asunder as if by a serous infiltrate, thus lifting the endothelial layer of the membrane which is clearly demonstrated to

exist as a covering for all. The blood vessels present in cross sections and are unusually large and thin-walled. Wherever a blood vessel courses there also is a condensation of the white fibers into bands parallel to the vessel. The general aspect of the region under discussion is that of a mass of more or less isolated fascicles of white fibrous tissue, with here and there a blood vessel filled with blood, broad clefts lined with endothelium, and a few fat and connective tissue cells sprinkled here and there.

"No fibrin, polymorphonuclear leukocytes or other evidence of inflammation are present. The connective tissue next to the layer of longitudinal muscular coat is condensed and seems to penetrate in increased amount between the muscle bundles. Aside from this questionable matter, the gut and its walls are normal. The endothelial covering in places on the surface is perfectly preserved and demonstrates beyond a doubt that we have here no new or false membrane, but simply a rarefied and otherwise altered natural structure. The enlargement of the endothelial lined clefts so abundantly observed suggests a chronic lymph stasis as an associate condition which is possibly a key to the formation of the amount of fluid in the tissue spaces of the peritoneum."

CLINICAL DESCRIPTION.

In addition to this description we would add some observations of the condition as observed now in quite a number of living subjects seen in the course of surgical operations. The transparent, vascularized veil appearance of the membrane strikes one's attention very forcibly with the parallel bright red vessels running with the long axis of the ascending colon. In some instances it appears as though the membrane came on to the colon from the lateral parietal wall just above the caecum and courses directly upward to disappear beneath the liver well anterior to the normal peritoneal layer on the superior surface of the transverse mesocolon. In other instances it seems attached to the under surface of the

reflection. Again, in other cases, it appears as though it had begun above and descended on the colon to its termination usually just above the caecum. Again we have seen it pass across and upward to the transverse colon, which in one instance was apparently drawn down by the membrane practically paralleling the ascending colon to the level of the caecum. (In this case the gastric symptoms were marked as a result of the mechanical gastropnoxis thus produced.) In one instance this membrane was so dense as to lose entirely its apparent vascularity and transparency and looked like a solid sheet of organized fibrous tissue beneath which the ascending colon was so lost that it could not be seen at all until the membrane was divided and brushed aside, when an apparently normal though contracted colon became evident. In no instance does this membrane resemble our ordinary conception of an adhesion. It is never adherent to the abdominal wall nor to any contiguous loops of small intestines. Indeed, it resembles more closely than anything we can describe, a thin pterygium. In recent cases the membrane is quite free and produces but limited restriction to the underlying colon. In more advanced cases it seems to bind the colon close to the posterior abdominal wall and produces such marked angulations and convolutions of the colon as to practically produce a stricture of its lumen. In fact, in one case seen in autopsy when a stream of water was caused to flow into the caecum through the ileocaecal valve, the caecum distended almost to bursting and yet none of the fluid would pass through the ascending colon and past the hepatic flexure until it was milked through with the fingers. It is also noteworthy that in a large majority of cases the caecum was not involved in the membrane at all, but is found greatly distended and correspondingly thin. Nor was the appendix invested except when it occupied an ascending position at the outside of the colon, when it was covered by the membrane as it was reflected on to the colon from the lateral parietal wall. The appendix in almost every case, however, was rather small and sclerotic. We have

seen the membrane in one case in which there had been years before an appendicular abscess which was drained. In this case the caecum was likewise markedly involved in the membrane. The angulation of the colon is generally most marked at the hepatic flexure. There is always a very loose space where the membrane can easily be picked up at the outer angle where it passes from the colon to the outer parietal wall.

AETIOLOGY.

The cause or origin of this condition has given rise to considerable speculation with a number of quite diverse theories. These varied theories resolve themselves rather naturally into three different general theories. (1) Congenital, (2) mechanical, (3) inflammatory, each with certain minor differences.

1. *Congenital.* Quite a number of observing surgeons have expressed the view that the membrane described is congenital in origin, but differ as to the exact anatomical derivation. (a) Mayo is inclined to view this membrane as the true peritoneum which, as the caecum descends, failed to settle itself closely in the normal way to the gut wall, but, remaining loose, acquired the peculiar excessive vascularization. If this were correct we would wonder why similar peritoneal laxity did not extend to the caecum as well. (b) Keiler, of Galveston, in personal conversation, suggested the possibility that this membrane was a prolongation of the border of the great omentum which became attached to the ascending colon while it was still up beneath the stomach before complete rotation and was drawn down over the gut in its descent and remained as a separate layer of peritoneum. His view was suggested by the parallel arrangement of vessels as in the true omentum and the fact that it appeared so often to come on to the ascending colon from above and was practically continuous with the right border of the true omentum. This theory has recently been supported in print by Cotte, who considers it as *one* of the types of membranes. In cases, such as our first and others reported (one by Pilcher),

where the descending portion of the transverse colon is drawn down parallel to the ascending colon and mutually covered by this membrane (double barrel, as Gerster describes), the suggestion looks plausible. We also in the past few weeks have observed a case in which the lower portion of the usual omentum was fused with the pericolic membrane for a width of about two inches just above the ileo-caecal juncture, presenting a definite band of constriction, but free above entirely.

These congenital theories are attractive, and at the same time, would offer the greatest encouragement to surgery. For if such they be, a simple division of restricting bands, like tenotomy in congenital club foot, should furnish relief, as should the method suggested by us in our original paper. However, so far, we know of no observation of this condition in infancy or childhood. Furthermore, in all our cases the clinical history has been of adult origin. Perhaps, however, this can be explained by assuming that in early growth of the gut the membrane is sufficiently lax to permit freedom of peristalsis. Later on, however, as the gut grows in length or is lengthened by traction of the weight of stagnant faeces the membrane fails to stretch correspondingly and hence begins to become a source of restriction and obstruction. Then follow the clinical phenomena. (c) We have noted as one of the attendant conditions of our pathological picture the great dilatation, elongation and thinning of the caecum. As far back as 1904, Wilms, of Germany, called attention to a condition characterized by great motility and elongation of the caecum to which he applied the term "*Caecum Mobile*," and to which he ascribed a chain of symptoms quite like those we have found in membranous pericolicitis. This condition of the caecum is generally congenital, and if the symptoms in our cases are due to the condition presented by caecum alone, we should recognize here likewise a congenital origin, Dreyer (Breslau), however, in anatomical studies found the caecum freely movable in as large as 67 per cent of subjects, and hence questions the mobile cae-

cum in itself as a factor of much importance. In our observations we have been inclined to consider the enlargement of the caecum as a secondary change, its gradual dilatation being the result of long continued distention by gas and faeces which are retained in the caecum owing to the obstruction in the colon above caused by the restrictions of the pericolic membrane. Wilms, however, claims the existence of a symptom producing mobile caecum without membranes, adhesions or kinks. Such must be rare in our observation.

2. *Mechanical.* All are familiar with the noteworthy and frequent papers of Arbuthnot Lane, of London, on "*Chronic Constipation*" and "*Chronic Intestinal Stasis*." Beginning with intestinal stasis, primarily dependent upon transition in man to the erect posture with evolutionary social changes and habits favoring stasis, Mr. Lane traces an extraordinarily interesting chain of sequences both pathological and clinical. Among these pathologic changes he describes adhesions about the terminal ileum, appendix, ascending colon, the hepatic and splenic flexures, and the sigmoid, all of which he considers as accessory ligaments formed to antagonize the downward strain with tendency to prolapse of these segments of the intestinal tube. These adhesions as described by Mr. Lane are intended to be conservative and protective, though he admits they sometimes go too far and become obstructive. American observers have confirmed Lane's observations particularly concerning the kink (Lane's Kink) near the terminus of the ileum and the adhesions, if such they be, about the ascending colon and hepatic flexure. His more elaborate or extensive descriptions have not often been verified, however, in this country. We are of the opinion, however, that what he has described simply as "*adhesions*" is in fact the same condition we have endeavored to present, though his observations have evidently been very lacking in descriptive significance and clarity. Likewise while simple intestinal stasis may act in some manner as a cause in the production of these "*adhesions*," it is the "*adhesions*" which

produce the suffering. Likewise it may be pertinent to inquire if the "adhesions" may not instead be or become the cause of the stasis. At all events we are persuaded that something definitely more than chronic constipation must exist to occasion either the pathologic or the clinical picture presented by membranous pericolicitis. For all have seen the most stubborn and complete cases of constipation with no such pathological picture at all and oftentimes without any further clinical symptoms. We think this membrane is therefore something other than physiologic response to mechanical demand.

3. *Inflammatory.* Two general theories of the origin based upon the assumption of inflammatory origin have been presented, one assuming a spreading peritonitis from points of original infection *without*, and the other a reaction from infection *within* the contiguous gut.

(a) *Without.* Undoubtedly our older views of this condition accepted it as one of true adhesions the result of old infection transmitted from most usually the appendix, or, in case of particular involvement about the hepatic flexure, from the gall-bladder. And upon this hypothesis it was confidently expected that the simple removal of the appendix or the drainage of the gall-bladder would suffice to cure. This surgical effort has proven a failure. This failure, however, does not suffice to disprove the theory, as the "adhesions" which are the effect of the original disease may suffice to become a secondary and effective cause of their own train of symptoms and, even though the original focus is removed, this secondary cause remaining now becomes a primary source of importance. Hertzler, who also made microscopic examination of specimens from several of our earlier cases, believes the condition one of "varicosity of the peritoneum," due to a more or less distant inflammation and that the membrane ("pseudo-peritoneum") itself consists of peritoneum mobilized by a hyaline degeneration of the sub-peritoneal connective tissue.

(b) *From within.* Perhaps the majority of surgical observers have held to the view

that, "the peritoneum reacts to the infection within the colon. Gerster concludes that, "the peritoneum reacts to the infectious process ordinarily associated with chronic colitis, by the formation of characteristic vascularized transparent membranes (pseudo-peritoneum) which take their origin along the external lateral aspects of the caecum, ascending colon and hepatic flexure on the one side, and the sigmoid flexure, descending colon and splenic flexure on the other."

Pilcher likewise "considers them to be the result of long continued or oft-repeated mild infections of the peritoneal covering of the caecum and appendix transmitted through the intestinal wall," but does not specifically presume a colitis as does Gerster.

The pathological report of Dr. Hall, quoted earlier in the paper, finds no microscopic evidences of change in the mucous or submucous coats to conform with a true colitis. When we reflect that the area of the gut most affected is that from which most of the *physiologic absorption* takes place in the normal tube, it is not difficult to assume that through this segment mild infection and toxins may likewise pass to the peritoneum without necessarily concomitant inflammation of the mucous lining, though the latter may and doubtless often does co-exist.

Our personal observation of now a considerable number of cases at operation rather inclines us to the belief that perhaps varied causes may be responsible for the production of this pericolic membrane. We have one case, previously reported, in which the membrane (in this case involving the entire caecum as well) was undoubtedly the sequence of an antecedent acute peritonitis of appendicular origin. This case had been one of walled-in appendicular abscess with drainage without removal of the appendix. At the time of our later operation all the walling in adhesions were gone, but the vascular membrane was well marked. This is the only one of our cases with antecedent acute appendicitis. We have also seen one or two cases which strongly sug-

gested a congenital origin and verified a suspicion of the correctness of Keiler's (also Cotte's) omental idea. Also a few cases with alternating constipation and diarrhoea have led us to suspect a coincident colitis as believed by Gerster. In quite the larger per cent of cases, however, we are of the opinion that the view suggested by Dr. Hall is correct. This opinion is the only one thus far substantiated by microscopic study, including the entire gut. We do not assume, however, that one can be dogmatic concerning the revelations of only one case of real pathologic study. Surely, however, surgery here presents a definite problem worthy of the extended studies of the pathologist whose aid must be invoked in solving the question of pathogenesis since upon this solution may rest in such large measure the correct surgical effort.

SYMPTOMATOLOGY.

While the observation of our early cases was producing certain fixed opinions of a definite pathology, we were also in the study of the clinical manifestations gradually greatly impressed with certain striking similarities in the clinical histories of each. These impressions were remarked to several of our surgical colleagues and becoming likewise interested in the subject, they were soon able to confirm both the pathological picture and the clinical syndrome. Finally, from these repeated personal observations and with the assurance offered by the corroborative evidence of these colleagues, we became convinced that this interesting pathologic condition should be susceptible of absolute clinical diagnosis. Finally, in the early part of May, 1908, came the first case in which we attempted to make such a diagnosis before operation. The diagnosis was fully confirmed when the abdomen was opened. Between this time and that of the publication of my original paper in March, 1909, we operated upon nine cases in which this membrane was found, and in no case where such diagnosis had been made did we fail to find the corresponding pathological picture. The clinical report of several of these cases was given in detail in our origi-

nal paper and will not be repeated here. These conclusions have been further confirmed by an experience in the observation of, at the present in all, about thirty-five cases. We feel, therefore, that this positive pathological condition has an equally positive clinical picture. The following symptoms combined are usually sufficient to establish a definite clinical syndrome:

1. *Pain.* In every case pain has been the dominant symptom which has caused the patient to be referred to us for surgical relief, usually in the belief that the patient was suffering from appendicitis or gall-stones, or, in several instances, gastric-ulcer. This pain practically always has at some period a definite, abrupt onset. Sometimes the pain is quite severe, sometimes no more than distinct distress. When once started the case is usually distinctively progressive in its development, though oftentimes, in the early stages, with remissions of comparative comfort for variable periods. Later the pain or discomfort is practically constant, though marked by periods of acute exacerbations ("spell"), oftentimes requiring morphine for relief. The pain is quite generally diffused over the entire right side of the abdomen, though oftentimes particularly accentuated over the caecum and at the hepatic flexure beneath the ribs. These several attacks of pain are not, however, as a rule, attended by any elevation of temperature or by any pulse disturbance. They are rarely ever referred to the epigastrium.

2. *Tenderness.* A *diffuse tenderness* is likewise characteristic, but *without any attendant rectus rigidity*. This tenderness oftentimes approaches an hysterical hyperaesthesia and may be such as to render the pressure of clothing quite unbearable. While, like the pain, the tenderness is diffused pretty well over the entire right side of the abdomen, particular points are frequently observed low down in the groin, at McBurney's point, and just beneath the costal margin. These particular points of tenderness generally lead the practitioner to refer the case to a surgeon with a diagnosis of either ovarian trouble, chronic appendicitis, or gall-stones—or a combination of

each. The *distinctly localized* symptoms of these varied conditions, however, are lacking.

3. *Constipation.* Constipation is marked, particularly in well-developed cases, and large doses of any cathartic are required to secure evacuation of the bowels. The thorough emptying of the gut, however, oftentimes affords distinct but transitory relief. *Castor oil usually cures—for a few days.* In some instances the constipation has existed long before the pains began, sometimes there was none before. It is certainly exaggerated after the onset.

4. *Bloating-gas.* The formation of gas with much bloating is usually a marked symptom, particularly in the periods of exacerbation. This bloating is most marked in the lower abdomen and is due to the great distention of the caecum. It tends to grow worse and worse and in itself causes much distress and the patient complains much of the constriction of clothing. This gaseous distention of the caecum is oftentimes sufficient to be apparent to the eye in inspection of the abdomen. On palpation the fullness is evident and gurgling is readily demonstrated by manipulation with the fingers. Sometimes relief is experienced by pressure over the caecum, as in leaning against a table or bed or lifting the lower right abdomen with the hands. Sometimes under such manipulation the gas can be felt to pass onward with corresponding relief. Abdominal massage properly used may give temporary relief.

5. *Mucous.* In long-standing cases constipation may alternate with mucous diarrhoea. In nearly all cases some mucous will be found on examination of the stools, but is usually not sufficient to attract the attention of the patient, and the fact is only elicited on direct inquiry.

6. *Gastric Disturbances.* Disturbances of digestion are rarely absent and are oftentimes so pronounced as to make them dominant and lead to a primary diagnosis of "chronic gastritis" or "gastric ulcer." They are not influenced by diet or even as a rule by fasting. They have no definite relation to the period of gastric digestion, and are

only benefited by purgation and then but for a while. The gastric analysis is likewise variable. In all, these stomach symptoms conform with what we today generally recognize as those of functional gastric disturbance with the real disease elsewhere. In this connection it is well to quote from a recent address of Moynihan where he says, "In my own experience the commonest site of a "gastric ulcer" is in the right iliac fossa, and I have no doubt that in the majority of the cases which form the basis of the text of the very careful and elaborate treatises by the physicians of all lands upon "gastric ulcer" no morbid process of this kind was present."

7. *Loss of weight and tone.* As the case progresses the patient begins to exhibit the usual signs of intestinal toxæmia, with general impairment of nutrition and vitality. He begins to lose flesh quite perceptibly, and with the loss of weight, is a corresponding loss of strength and tone. He becomes weak and lacking in ambition, the skin becomes mottled and discolored, the facial expression shows depression, and the general picture of intestinal auto-intoxication is complete.

8. *Neurasthenia.* Finally the patient becomes markedly neurasthenic and even melancholic. All symptoms are exaggerated and it would take volumes to record their chronology of complaints. When our surgical efforts proved futile it was easy to fall back on the all-sufficient excuse, neurasthenia.

DIFFERENTIAL DIAGNOSIS.

We believe a diagnosis can almost always be correctly made by a careful study of the case under the analysis of the foregoing symptoms, particularly after one has once had the experience of even a few well observed cases. Thus far we have found little difficulty in diagnosis through the analysis of the clinical symptoms and physical examination alone. In fact, we have been able to arrive at a positive diagnosis in all well-matured cases on clinical evidences alone, and in no case in which such diagnosis had been made did we fail to find the membrane.

It is, however, true that the membrane, in several instances, has been discovered in the course of abdominal work for other conditions where it had not been suspected. In none of such cases, however, was the membrane producing any mechanical interference with intestinal peristalsis. For additional evidence the use of the X-ray, following the ingestion of bismuth, has proven of considerable value and has been well presented by Lane, Pilcher and others. For technic of the bismuth meal we quote as follows from Pilcher:

"Technic of Bismuth Meal.—The bowels having been emptied during the day by a dose of castor oil, the patient is given, at ten o'clock in the evening, a mixture containing from two to four ounces of bismuth subcarbonate, the amount to be determined by the size and weight of the patient. To this is added six ounces of mucilage of acacia, and the quantity thus obtained made up to sixteen ounces by top milk, which serves to disguise the insipid taste of the bismuth and the acid taste of the acacia. The patient then reports to the radiographer the following morning at 9 o'clock, after an approximate interval of twelve hours, at the end of which time it will usually be found that most of the bismuth emulsion has passed the terminal ileum and has already filled the first part of the big gut. Subsequent exposures must be determined according to the degree to which the bismuth is found to have progressed along the bowel at the first examination. In many cases a supplementary enema of bismuth is administered through a short rectal tube. Observation shows that the emulsion is carried around to the caecum within four or five minutes by retrograde peristalsis. By combining the methods a good demonstration of the entire intestine can be secured."

The evidences furnished by skiagraphic work with bismuth are in general those of local stagnation in the ileo-caecal region and particularly will demonstrate the dilated and oftentimes prolapsed caecum. Repeated pictures at intervals also demonstrate the retardation of the faecal current in the

ileum, in the caecum, at the hepatic flexure or anywhere that obstruction may occur.

With the rather broad distribution of symptoms resulting from membranous pericolicitis there may be quite a number of other conditions simulated and require differentiation.

1. *Chronic Appendicitis.* The most common error has arisen in diagnosing this condition as chronic appendicitis, a mistake often made indeed. It should be remembered, however, that the appendix, as a small localized organ, should give, when inflamed, rather correspondingly definite local signs. The tenderness of chronic appendicitis can, even by the patient himself, as a rule, be focalized with a finger tip, though the exact spot must vary with the anatomical site of the appendix in the individual case. In membranous pericolicitis, in marked contrast, the tenderness is diffuse, as the lesion over practically the entire right side of the abdomen. It cannot be covered with the finger or even a hand, but the patient, endeavoring to signify the sight of pain, passes his fingers from the costal margin to Poupart's ligament. It is true that he will usually in time find spots of rather exaggerated tenderness, as at McBurney's point, due to the distention of caecum and beneath the costal margin where is found the hepatic flexure as well as the gall-bladder. But these are not distinctly focal points of local disease. An attack of acute appendicitis with diffuse peritonitis, leaving behind extensive adhesions, might produce similar signs of diffuse pain and tenderness, but in membranous pericolicitis there is never any history of such antecedent acute appendicitis, no fever, no rigidity, no tumor, no prolonged acute bed illness. Furthermore, in true chronic appendicitis the pain is in most instances referred to the epigastrium and the local signs of appendicitis become well marked only when the inflammation is sufficiently acute to extend to the peritoneum. In membranous pericolicitis the pain is always distinctly confined to the right side of the abdomen and is never epigastric. There may be many stomach disturbances, but rarely gastric pain. This significance of epigastric pain

in chronic appendicitis is indeed noteworthy. Stanton, in the analysis of the end results in a traced series of one hundred cases operated upon for presumably chronic appendicitis, remarks, "In our cured cases of chronic appendicitis the pain has been almost constantly referred to the epigastric, or mid-abdominal, rather than to the right inguinal region. On the other hand, nearly all the patients not benefited by operation complained of right inguinal pain as one of the chief symptoms."

2. *Gall-bladder.* The diagnosis of gall-bladder disease has also often been one of the sources of error. The marked angulation of the hepatic flexure and the pain occasioned as intestinal contents attempt to pass this point of narrowing, suffice to explain the confusing symptoms. Of course there is no jaundice and no true biliary colic. But even so these signs be lacking in true gall-stone disease. But the one significant point is the absence of distinct localized exclusive pain or tenderness beneath the ninth costal margin which should be distinctly focal in cholecystitis, but is diffuse in pericolicitis. Also there is seldom transmitted subscapular pain in this condition.

3. *Gastric Ulcer.* The diagnosis of gastric ulcer has also been made, and indeed often strongly claims one's attention, in view of the almost universal presence of digestive disturbances in these colonic disorders. In pericolicitis, however, the gastric symptoms present no definite type, and have no special relationship to gastric function either in time of occurrence or in character. They are rarely benefited by any gastric attention, dietary, medical or otherwise, and are only influenced by intestinal evacuation. The present day conception of extrinsic gastric symptoms and reference will readily protect the careful analyst with the presence of the other distinctive intestinal signs.

4. *The Ovaries.* In women the caecum distended and down low in the pelvis leads one to consider ovarian disease, and doubtless many ovaries have been taken out on such erroneous conclusions. Again, however, we must note the absence of focaliz-

ing limitation, and pelvic examination should clear remaining doubts.

5. *Chronic Colitis.* The term colitis as used in the past has been so all-embracing as to cover every phase of large intestinal activity, and doubtless many cases of membranous pericolicitis have found refuge beneath its sheltering wing. A true colitis, however, should show more evidences of increased mucous secretion. Diarrhoea, therefore, should be largely characteristic of colitis with abundance of mucous in the stools most of the time. In membranous pericolicitis, per contra, diarrhoea is absolutely rare, and mucous is only observed on close attention and then fixed to the faecal mass. In the opinion of some observers colitis is a cause of the pericolic membrane. We rather incline to doubt this, but believe that as the result of chronic retention and irritation in the gut restricted by the pericolic membrane, a colitis may occur as a secondary condition. And, furthermore, these cases have proven in our experience most resistant to treatment.

6. *Lane's Kink.* The distinctly focal obstruction in the terminal ileum produced by the much-discussed Lane's kink may also be a source of confusion. When Lane's kink is found as a solitary lesion, however, the broad distribution of signs presented in membranous pericolicitis is lacking. In fact, Lane's kink more nearly simulates a true chronic appendicitis, as it is likewise a distinctly localized process. It is usually referred a little lower down and more toward the middle line than the appendix, but the X-ray may be required to differentiate. The Lane's kink may, however, be associated with membranous pericolicitis, and when so it cannot at all be diagnosed in advance, but as a possible factor should always be looked for when operation is undertaken for the broader condition.

7. *Kidney Stone.* Kidney lesions and particularly calculus may occasionally be suggested, though such has never occurred in our cases. The urinary analysis and the X-ray findings are sufficient to dispell any doubt.

One fact, at least, has been clearly dem-

onstrated. In cases of any surgical doubt of diagnosis, a sufficient exposure should be made to disclose the entire ascending colon, which should then be systematically explored. The small incision and the too hasty operation on too confident diagnoses have been factors which have led us into too many distressing failures. If we progress no further from these studies of membranous pericolicitis than to enable us to avoid previous errors in diagnosis and correspondingly fruitless surgical efforts, we shall have gained much. With this more accurate study, however, as a basis, may we not look forward to ultimate surgical achievement in cure.

A RESEARCH ON HEREDITY.*

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What a piece of work is man! How noble in reason; how infinite in faculty. In form and moving, how express and admirable. In comprehension, how like a God.

Horace said, "The fathers have eaten sour grapes and the children's teeth are set on edge."

Montaigne remarked, "We need not trouble ourselves to seek out foreign miracles and difficulties: methinks, amongst the things that we ordinarily see, there are such incomprehensible wonders as surpass difficulties of miracles."

What a wonderful thing it is, that the drop of seed of which we are produced should carry in itself the impression, not only of the bodily form, but even of the thoughts and inclinations of our fathers.

Where can that drop of fluid matter contain that infinite number of forms, and how can they carry on these resemblances with so temerarious and irregular a progress that the son shall be like the great-grandfather and the nephew like his uncle?

In the family of Lepidus, at Rome, there were three (not successively, but by intervals) who were born with the same eye covered with a cartilage.

At Thebes there was a race that carried from their mother's womb the form of the head of a lance, and he who was not born so was looked upon as illegitimate.

And Aristotle says that a certain nation, where the women were in common, they assigned the children to their fathers by their resemblance.

The question asked by the illustrious Harvey three centuries ago, "How does like ever beget like?" is still wholly unanswered.

There are a whole series of theories and they all have practically this in common: that they seek to explain the uniqueness of the term cell by regarding it as a centre of contribution from different parts of the organism.

Spencer, Darwin, Galton, Brooks and others, at one time and another, contributed toward these theories.

What might be called the dominant modern view is that of Weismann, the central idea of which is the "continuity of the germ plasm." Thompson's version of it is probably the clearest: "A living creature usually takes its origin from the fertilized egg cell from union of the ovum with a spermatozoon. These germ cells are descended by a continuance of the cell division from the fertilized ova which gave rise to the two parents: they have retained the organism of the fertilized ova and this organism has its vehicle in the chromatin of the nucleus—the germ plasm."

By germ plasm is meant the formative tissue out of which each individual is fashioned.

The germ plasm is continuous; that is to say, it is not manufactured afresh within the individual of each generation for the purpose of procreating the next, but is handed on from generation to generation.

There is a general belief that the germ cell inherits from the parental germ cells an organization of minute particles which are the material bearers of particular inheritance qualities.

The greatest advance of our knowledge was done by Gregor John Mendel, an Augustinian Monk, born peasant, yet a student of science and a man of rare scientific insight

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and varied interests, and whose leisure was spent in the study of hybridization of plants. In 1866 he published a paper giving the results of his experiments. This paper did not attract much attention. He died in 1884, unknown to scientific fame, and his work, buried in the proceedings of a local scientific society, was like to have died with him, but it has been disinterred in this century by those who recognize in it the hand of genius. Mendel discovered an important set of facts. While his classical experiments were made on plants, they have been repeated by other observers not only on plants, but insects, pigeons, rats, mice and rabbits.

The essential part of his discovery is the evidence that the germ cells, or gametes, produced by cross-bred organisms, may, in respect of given character, be of the pure parental type and, consequently, incapable of transmitting the opposite character; that when such pure similar gametes of opposite sexes are united in fertilization, the individual so formed, and their posterity, are free from all taint of the cross; that there may be, in short, perfect, or almost perfect, discontinuity between these germs in respect of one of each pair of opposite characters.

Suppose a plant which is of a pure tall breed is fertilized from a similar breed, the resultant offspring is, of course, the same, namely, pure tall.

And from a pure dwarf breed, treated in the same way, the results are pure dwarf.

If a pure tall, however, be fertilized from the pure dwarf, the result must be a generation of hybrids, and one might expect them to be of medium height; but this is not the case—they are all tall.

It looks as if the tallness had swamped the dwarfness so that we may call the tallness the dominant character and the dwarfness a recessive character.

But though these hybrids are tall in appearance, the dwarf element has not wholly disappeared; it remains in respect of their powers of propagation, for, if these tall hybrids be interbred together, the dwarfism comes out again in their progeny; so in the third generation there are some tall and

some dwarf. There is, in this third generation, a definite proportion between the two varieties, namely: three tall to one dwarf.

The theoretical interpretation of these facts is, that the pairs of character which behave in this way do not blend in the germ cells, but that each gamete carries either one of the characters or the other.

And, further, the difference between a pure bred and a half-breed is this: that, in the pure bred all the gametes carry one of the characters to the complete exclusion of the other, while in the half-breeds half the gametes carry one character and half carry the other.

As an illustration: Some kinds of wheat are very susceptible to the fungoid disease known as "rust"; others are immune. The quality of immunity to rust is recessive to the quality of predisposition to rust.

When an immune and a non-immune strain are crossed together the resulting hybrids are all susceptible to rust.

On self-fertilization, such hybrids will produce seed from which appear dominant rust. And recessive immune plants in the expected ratio of three to one. From this simple experiment the phrase, "resistance to disease" has acquired a more precise significance, and the wide field of research here opened up in this connection promises results of the utmost practical importance.

This Mendelian theory may explain haemophilia, color-blindness and alkaptonuria.

Thompson says: "The present is the child of the past. Our start in life is **no** haphazard affair, but is vigorously **determined** by our parentage and ancestry. All kinds of inborn characteristics may be transmitted from generation to generation."

Heredity is a subject that the master mind of Huxley illuminated in several of his essays. Half a century has elapsed since he wrote an essay on "The Origin of Species and the Doctrine of Natural Selection," and it remains unshaken.

He says that a certain amount of variation is a necessary result of sexual propagation; for, inasmuch as the thing propagated proceeds from two organisms of different sexes and temperaments, as the off-

spring has to be either of one sex or the other, it is quite clear it cannot be diagonally of the two, or it would be no sex at all. It cannot be an exact intermediate form between that of each parent; it must deviate either to one side or the other. You will have noticed how very often it may happen that the son shall exhibit the maternal type of character or the daughter possess the characteristics of the father's family.

Man, by his discovery of the causes and prevention of disease, and his power of acquiring, accumulating and distributing energy by harnessing the forces of nature, has effected a control over nature and her methods of natural selection, Nature, unmindful of the individual, and mindful only of the species in its operation of the survival of the fittest, and to the blind, the lame, the diseased and feeble of mind and body, "Thou shall not live."

But civilized man, by his control of nature's process of selection, has interfered with the laws of natural selection and survival of the fittest; and unless man can prevent the multiplication of poor types, racial degeneration must follow.

Huxley laid down the law when he said: "We are sorry for you; we will do our best for you, but we deny you the right to parentage. You may live, but you must not propagate."

Advantage is taken of the laws of heredity by breeders of domestic animals to improve and preserve purity of choice breeds for excellent and valuable qualities, such as speed, endurance and docility in horses; size, case of fattening.

By careful selection and mating of animals possessing particular characteristics new breeds are produced, and, by continued mating, these are made permanent.

A remarkable example of this was the Ancon breed of sheep, which originated by the variation of a single individual in Massachusetts in 1791. By selection and mating, a variety was produced with long bodies and legs so short that they were unable to leap over fences like other sheep.

A race of cattle called "Dutch Buttocked" was formed in Yorkshire by selecting in

each generation the animals with the largest hinder quarters. When the breed began to be established it was found that the large size of the calves' hind quarters increased the dangers of parturition to a considerable extent. The case is interesting as showing that hurtful peculiarities may be inherited just as readily as those which are beneficial, and as bearing witness to the improbability of the view that there is an innate tendency to vary in the right direction.

A great variety of traits—physical and mental—of everyday observance exists in an unusual degree in certain families, such as tallness and dwarfness, corpulence or leanness, extraordinary muscular strength, loquacity, precocity in mental or bodily development, or tardiness in the same, grace in movement, oddities of manner and left-handedness. For this latter we have the Biblical history of Benjamin; seven hundred of his descendants were left-handed and could sling stones at a hair's-breadth and not miss.

Innate aptitude for mathematics, science, music and other fine arts is often observed to run through several generations.

Some families are known for such virtues as business integrity, temperance, truthfulness and frugality. Others are equally remarkable for dishonesty, mendacity and drunkenness.

Marked physiognomy and proneness for commercial pursuits have been Hebrew characteristics from time immemorial.

Longevity and shortness of life are family traits, both of which have important bearing on prognosis in sickness.

Another common inheritance in certain families is an unusual severity, or mildness, in the course of contagious disease, and unusual susceptibility to the same.

Vicious and criminal propensities recur in the same family as a rule with varying degrees of depravity. A remarkable example of this class is the family of Jukes, in New York State, consisting of twelve hundred people, of which the majority are paupers, thieves or prostitutes, in a greater or less degree and who are computed to have cost the State, in prison maintenance,

alms house, relief, etc., over one million dollars. The ancestor was a descendant of the early Dutch settlers, and lived much as a backwoodsman. He is described as a hunter and fisherman and hard drinker, jovial and companionable, averse to study and toil, working hard by spells and idling by turns, becoming blind in his old age, and his blindness has been entailed upon his children and grandchildren.

The Bourbon nose and the Hapsburgh lip are well-known family characteristics. It is very significant that the Hapsburgh lip is not inherited by the females and yet is transmitted by them. Napoleon's son, the King of Rome, inherited the Hapsburgh characteristics.

Charles V, who succeeded Ferdinand in 1516, and governed Spain for forty years, during the height of his glory, had such a well-marked lower lip that each time he ate it is said to have touched his nose.

Maudsley, in his "Pathology of Mind," emphasizes this fact: That a person does not inherit insanity, but a tendency or predisposition; nor need the unsound strain in the stock show itself in any form of actual insanity. It may appear in some allied nervous disorder—in hypochondriasis, in suicide, in epilepsy, in dipsomania, in weakness of mind, in neuralgia, in chorea, in stammering, in spasmodic asthma, in some periodical nerve storm of abnormal character; and, conversely, these disorders of one generation may, in their turn, forebode some form of insanity in the next. This is well shown in the history of the Caesars, from Julius, who was an epileptic, to Nero, who was insane—the result of consanguineous marriages.

A practical illustration of the laws of heredity is shown by the study of the civilization of our own country—the dominant characteristics of the four following branches from which this country was peopled: The Cavalier, the Puritan, the Pilgrim and the Redemptioner. Throw them together as you will, their each distinctive inheritance is unchanged and the disharmony is made more evident by propinquity.

The Cavalier will be broad, liberal in his

views, brave, gallant and pleasure-loving. The Puritan narrow, pessimistic and dominating. The Pilgrim humble, staunch and quiet. The Redemptioner secretive, treacherous and untrustworthy.

Let us take the origin of the four classes of English people.

THE CAVALIER.

In 1642, England was divided into two parties. Those who enlisted under the king's standard—for the most part the nobility, the gentry and the clergy—were known as "Royalists," or "Cavaliers," in contradistinction to the "Round Heads," or "Puritans."

The beheading of King Charles I and the strong-headedness of Cromwell caused an exodus of Cavaliers from England. They came to Virginia for two reasons: first and mainly, because Virginia was horrified at the taking off of King Charles; and, secondly, because of the good reports of life in the colony. Cook says: "Men in Virginia had been arrayed against each other, but the commonwealth men revolted from the scene in front of Whitehall, and the Royalist exile, flying to America, appealed strongly to the sympathies even of political enemies."

They were persons of rank among the nobility, clergy and gentry; men of the first rate who wanted not money, or credit, and had fled from their native country as a place infected with the plague, reduced to horror and despair at the bloody and bitter stroke of the king's assassination at his palace at Whitehall. Right or wrong, they had fought for their cause to the bitter end.

It was the Cavalier spirit of Virginia that sent words of hope and cheer to the wandering, homeless and almost shelterless son of Charles I, and invited him to come to them. They declared him to be the King of England and Virginia, and that any one who denied it should be punished as a traitor. Here was moral courage. They hurled defiance at the Lord Protector of England and all his followers, and they were not afraid of proclaiming Cromwell an assassin and the wandering boy King of England and

of Virginia, while all the other colonies were as silent as the grave.

These Cavalier leaders were the Washingtons, Jeffersons, Henrys, Lees, the Carters and the Randolphs, and many other noted families. These were the people that resisted Cromwell's powerful fleet that came to bring the colony into subjection.

It is well to study the inherent features of a community in which such leaders of men were produced.

Of the Cavalier, Professor Woodrow Wilson says:

"Virginia was recruited as she grew, not out of a special class like the Puritan, with a cause at their heart, but out of the general body of English people in whose lives and thoughts the disputes which grew so keen from year to year within the church played very little part. They brought their religious beliefs and their forms of worship with them to Virginia, as habits in their blood, unseparated and undistinguished from their English citizenship. They were not settled in close groups, and were not always discussing their common affairs. They were scattered through wide neighborhoods, along marshes of broad rivers. Each planter farmed as much of the fertile land as he could, but he planted little for sale, except tobacco, and the tobacco was shipped at his own wharf. Selected country churches were the neighborhood gathering places of the colony for talk as well as worship. It was a leisurely way of life.

"And thus the character of the Virginia colonists grew, free and broad and liberal, like the forests and rivers among which they lived.

"They were not watched by the neighbors' eyes, nor criticized over much by their neighbors' tongues. Each communed with nature and nature's god in his own way, and thus drank in and fed upon a healthy atmosphere of freedom."

This manner of life developed personal independence and love of broad views, unhampered by the opinions of their neighbors. They lived well on fish and oysters, deer and wild duck; never meddled with their neighbors' religious views, and drank

the king's health and each other's prosperity when occasion presented itself, and, if the occasion did not come at least once in a while, they would make one.

Their social intercourse was easy, affable and smacked of that high-bred courtesy which distinguishes the better class of Englishmen in the days of good "Queen Bess."

Such were the beginnings of the Cavalier civilization which, in years to come, was to people the whole South and Southwest.

THE PURITAN.

Now, let us take the Puritan, diametrically opposite to the Cavalier.

The rise of this religious sect began during the reign of Queen Elizabeth. They insisted that certain changes should be made in the government and ceremonies of the church. At first they did not intend to form a new sect. They came to America for freedom to worship as they believed proper—not to offer an asylum for all beliefs. They wanted to purify the church. They hated bishops and gowns and stated prayers. And in 1629 they came to Salem, Mass.

The new settlers of each locality owned their lands jointly, as if they were a corporation. All local affairs were managed by officers whom the town meeting elected. The town meeting decided all things, great and small; in what way the houses should be set, and roofed, and distributed along the streets. Every freeman and proprietor of the village had his vote in the meeting and deemed himself self-governed when it governed him. Only freemen constituted the company, and the company governed, and only those were freemen who were members of some of the churches.

Edmund Burke says of them:

"They who in England could not bear to be chastised with rods, had no sooner got free from their fetters than they scourged their fellow-refugees with scorpions."

They left Old England ostensibly for the sake of liberty. They established in New England an oligarchy where even a suggestion of religious liberty was treason. Every

one who came to them, was stretched on their procrustean bed. If he fitted, he was admitted into fellowship; if not, he was lipped off.

Men were fined, whipped, sentenced to have their ears cut off, or banished from the colony altogether for the slightest imaginary offenses against the church or its government. Theirs was a rigorous government, under which only those could live and be at ease who professed and proved themselves Puritans.

Such was the beginning of the Puritan civilization which, in after years, covered the whole North and extended its influence into the Northwest.

THE PILGRIMS.

The Pilgrims reached Plymouth in December, 1620, nine years before the Puritans came to Massachusetts. Robert Brown, a graduate of Cambridge University, is credited with founding the first Separatist Church (as the Pilgrims were then called) in Norwich, England, in 1520, just one hundred years before they emigrated to the colonies. Because of oppression, they went from England to Amsterdam, and there they remained twelve years.

They were not aggressive, dominating or contentious; of humble origin as a rule, they were composed of weavers, silk workers, wool growers, carpenters, hatters, artisans of various kinds and small farmers. They believed in the complete separation of church and state, and religious toleration, such as we practice today.

After chartering the Mayflower and making their preparations for sailing, they kept a farewell fast, and the Rev. John Robinson preached them a sermon from this text:

"And there at the river of Ahara, I proclaimed a fast that we might humble ourselves before our God and seek of him a right way for us and our children, and all of our substance."

"Upon this text," says Governor Bradford, "they left their goodly, pleasant city, which had been their resting place nearly twelve years. But they knew they were Pilgrims and looked not much on these

things, but lifted up their eyes to the heavens, their dearest country, and quieted their spirits."

In 1631 there came to Plymouth a young Welshman, Roger Williams, of greatly advanced ideas concerning religious government. When he presented his views in Salem, Mass., he incurred the displeasure of the Puritans. The result was his refuge with the friendly Indians and his founding of Providence, R. I.

The Puritans left the Church of England for conscience sake; the Pilgrims left the Puritans for the same reason.

A historic center is the little town of Alford, in Lincolnshire, England. Its neighborhood has witnessed the Genesis of events that have left their impress on the world's history. From Scrooby, Bawtry and Austerfield came Bradford, Brewster and their fellow Pilgrims, to learn in Holland the lesson which enabled them to found a new state in the New World. From Alford came Anne Hutchinson in 1634, teaching in Boston her doctrine of salvation by faith, contrary to the teachings of the Puritans—a woman of eloquence and ability, a descendant of Dryden and related to Swift.

"A woman," says the Rev. Mr. Hubbard, "of nimble wit and voluble tongue, of eminent knowledge in the great charity and notable helpfulness"; and yet the cruel Puritan, Governor Winthrop, after dragging her through an inquisitorial trial in 1637, banished her to Rhode Island. She, like many of the Pilgrims, tried to turn the tide into a broader channel, only to be overwhelmed by it. Persecution and tragedies belong to the history of the Pilgrim because they did not fit the procrustean bed of the Puritans.

Last of these four classes comes

THE REDEMPTIONERS.

When the colonies were first settled there were immigrants who were not able to pay for their passage to America, so they were sold as servants, for a term of years fixed by the price paid for them. Among these Redemptioners were sometimes found gentlemen to the manner born, but, because

of some misfortune, or ill-luck, decided to try their fortunes in a new country. Later, when the jails of London were bursting with condemned criminals, there was an act of Parliament providing that persons sentenced to be whipped or branded, might, to escape the punishment, serve seven years in the colonies and never return to England. A second act was passed allowing convicts sentenced to death to commute the sentence by four years of service in the colonies and never return to England, thereby saddling upon the colonies the ancestors of the criminal class inhabiting our mountain districts today.

Seneca said that great genius was always mixed with insanity.

Newton was decidedly mad when he wrote his "Comment on Revelation."

Tasso was acquainted with the cells of a madhouse.

Pascal, too, was a miserable hypochondriac.

Cowper wrote "John Gilpin" when suffering from intense melancholia, and there was mental unsoundness upon both sides of his ancestors.

The immortal Miquel Cervantes, author of "Don Quixote," died raving mad in a hospital at Madrid.

The poet Shelley had an insane ancestry, and at Eton he was called "Mad Shelley."

Charles and Mary Lamb inherited their insanity, and Wordsworth and his sister, Dorothy, were almost parallel cases.

The Coleridge family had a strongly marked insane history.

The Sheridan family is notorious for neuropathic and psychopathic ancestry.

Sir Walter Scott's family was permeated with nerve disorder. Byron's blood was deeply tainted with maniacal infusion. His uncle, the eighth Lord, had been the homicide of his kindred and hid his remorse in the dismal cloister of Newstead. He, himself, enumerates three of his ancestors who died by their own hands.

The genealogy of the celebrated Bach family has been traced for two hundred years, from the founder, who was a baker, to Sebastian Bach, the climax of musical

talent, and the family record is one of sickness, blindness, drunkenness and mental defect.

I could continue almost indefinitely the long list of geniuses inheriting dementia, but there stands one silhouetted, as it were, against the background of great minds inheriting unsoundness—one grand illustration of acquired insanity, for transmitting his genius without the taint—few men have been more exempt from the usual exciting cause of insanity than Jonathan Swift.

If ambition, vanity, avarice, intemperance and the fury of sexual passion be the ordinary determinate agents of lunacy, then might he proudly defy the approaches of the evil spirit and withstand its attacks.

As for ambitious cravings, it is well known that he sought not the smiles of the court, nor even sighed for ecclesiastical dignity. Though a churchman, he had none of the crafty, aspiring and intriguing mania of a Woolsey or a Mazarin.

By the boldness and candor of his writings he effectively put a stop to that ecclesiastical preferment which the low-minded, the cunning and hypocrite sought to obtain. And of him it might be truly said, the doors of clerical promotion closed while the gates of glory opened.

It was a common rumor among Swift's countrymen in Ireland at the time that overstudy and too much learning had disturbed his mental equilibrium. For it is an historic fact that in 1745 the Dean was the inmate of his last sad dwelling, the hospital he had built for himself, where he died, mad, among fellow creatures similarly visited but sheltered by his own munificence.

He gave the little wealth he had
To build a house for people mad,
To show by one satiric touch
No nation wanted it so much.

Neither the delusions of love nor the frenzy of passion ever shaded the clear understanding of the Dean of St. Patrick.

Like a bark gigantic along a beautiful and regular canal, the soft hand of woman could with a single ribbon draw him around

in a fair and well-ordered channel; but to drag him out of his course into any devious path was not in nature nor the most potent fascination to accomplish.

I believe it is not generally known that he married secretly the gentle Stella the love of his life. Born to that marriage was an infant son, the very culmination of his heart's desire. That child unaccountably and most mysteriously disappeared. No trace, no clue, no shade of conjecture could point out what had become its destiny.

Sorrow for this child bowed down his head eventually to the grave and unsettled a mind the most clear and well-regulated that philosophy and Christianity could form.

This child was kidnapped by a vile and vindictive enemy of the Dean's on the evening of October 14, 1721, while in the arms of its nurse at Glendalough and hurried off to the extremity of Munster where he was exposed as a foundling on the bleak summit of Watergrass Hill. He was taken to the Royal Cork Foundling Hospital, where he remained until, by his mother wit, he accomplished his escape. I will give you the account of it in his own words:

"In the language of Byron 'I was sent afloat with nothing but the sky for a great coat.' But stop! I had an appendage around my neck; it was a small locket of my mother Stella's hair, of raven black. Around this locket was a Latin motto of my gifted father's composition, with three simple words: 'Prout, Stella, Refulges.' So, when I was taken into the Cork Foundling Hospital, I was christened 'Prout,' and in this hospital it was the first alma mater of my juvenile days.

"I graduated in all the sciences of the young gypsies who swarmed around me. The idea of escape was a bold thought, but it took possession of me. I longed for freedom, but how to elude the vigilance of the fat doorkeeper? But heaven soon granted what the porter denied.

"The milkman from Watergrass Hill, who brought the supplies every morning and evening, prided himself particularly on the size and beauty of his churn, a capacious wooden recipient which my own eyes ad-

mired with more than superficial curiosity. Mounting the wagon one morning and exploring the capacious hollow, a bright angel whispered in my ear to secrete myself in its cavity. I did so, and soon found myself outside the hospital gates, jogging onward to the highroad, to light and to freedom. It was a day when storms and tempests vexed the heavens, but, secure in the churn, I chuckled with joy and toward evening fell fast asleep."

Thus escaped from the prison life of the Foundling Hospital a boy of rare mental qualities, developing into a student of wonderful research and broad ideals, inheriting the wit and satire of his heretofore unknown father, Jonathan Swift, the Dean of St. Patrick.

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- Encyclopedia, Chambers'.
- Encyclopedia, Columbian.
- London Lancet.
- British Medical Journal.
- Reference Handbook Medical Sciences.
- Burke's History of American Colonies.
- Watson's History of Colonies in Virginia.
- Montaigne's Essays, Etc.

DISCUSSION.

DR. W. S. FARMER, Cookeville: Oliver Wendell Holmes on one occasion was asked the best way to raise a child, and he replied he would commence ten generations before the child was born to prepare the soil. We have all witnessed that certain diseases are more apt to occur in some families than in others, and we speak of them as hereditary. For instance, we see in some families a tendency to cataract in successive generations, and in other families a quite strong tendency to a hemorrhagic diathesis. But it has always seemed to my mind that when we use such terms as heredity, predisposition, susceptibility to disease, we use them loosely, or with a certain amount of vagueness. I have seen it somewhere in medical literature stated that you cannot even with the highest degree of microscope tell any structural difference in the germ plasm of different persons and state with any degree of accuracy that certain families will have certain tendencies to disease that other families will not have. All we know is we must trace the life history of the individual with these strong predispositions and such and such may occur. There is no one who understands it any better than our life insurance companies. An applicant for life insurance, although the physical examination may be excellent, and the physician may think the applicant

is a good risk, if there is a strong predisposition to a certain disease or to certain diseases it will frequently débar him. I think we should study the hereditary tendencies more than we are doing at the present time.

I have enjoyed the doctor's paper very much, but I do not feel capable of discussing it from a scientific standpoint.

DR JOHN W. McQUILLAN, Chattanooga: This is a very important subject, as national well-being is dependent upon it. There is no use in legislating with regard to it, and if we cannot control the conditions of pregnancy there is one thing we can do and look after particularly, and that is instruction which should be given to the pregnant woman. We have not much to do with a woman becoming pregnant, but when they come to us for advice, it is necessary that we should show them how to live, how to move and have their being, so that they will have offsprings that are worth while. Even some of the best educated people are ignorant on this subject. When a woman becomes impregnated she is often filled with fear. She should be under the influence of some skillful physician who has made a study of this subject. In every city of the size of Chattanooga there should be a school of instruction for pregnant women. These women should go to a physician who should tell them how to live and how to feed themselves, how to prepare food, and they should be taught how to think. Probably the greatest novel ever written in the English language was "Tristram Shandy." In the opening chapter of the book there is recorded an incident which is of great biologic significance. It is this: Tristram's father and mother were performing the momentous biologic act of begetting a boy, and right in the midst of that act the woman asked the question, "Did you wind up the clock?" The husband answered, "Why do you interrupt me during such an important moment?" As a result of that interruption they have a rattle-brained child. This seems a triviality. Through the interruption of that sexual act, which was the commencement of his being, he owes his misfortune in life. And there is a physiologic point as well as psychologic point there that nobody should forget.

The ancient Spartans came together. They said, "Look here, if we can breed the right kind of men and women we will conquer the world." Marriage was not permanent. As soon as they saw that parents could not agree they separated them. As soon as a child was born it belonged to the state. It was adopted. It was taught gymnastics, mentally and physically, and that small nation conquered the world. Doctors are privileged men in knowing these facts and in giving advice to pregnant women.

DR. B. D. BOSWORTH: I am constrained to take issue with the last speaker. An all-wise Creator has always placed limitations upon man's endeavor in the way of procreation, and so the ancient Spartan's effort fails, not because people did away with these laws, but because high breeding resulted, at last, in degen-

eracy. So I have never been able to adopt the idea of evolution, because I have seen men born both ways. I believe our finest efforts in breeding cattle, chickens or men have resulted, at last, in a reversion to a lesser state.

I was talking the other day with a man in one of our suburbs in Knoxville, a fancier of white rabbits. He showed me his great collection of pure bred, pink-eyed rabbits without a spot or blemish, and in the immense collection I saw a defect. I said to him, "How did that get in there?" He said, "They breed back to that good rabbit in spite of everything I can do." So I believe some limitation in the consideration of the creation was placed there, perhaps for some all-wise purpose.

DR. J. S. DYE, Chattanooga: I cannot discuss this paper of Dr. St. John from a scientific standpoint, but we are all observers, and we all have our opinions. This matter of heredity is quite interesting, and we owe it to the laity to be moral teachers as well as medical men.

With reference to heredity in children, I think it is a subject we should study very carefully and diligently. As has been suggested, we lay too much stress on heredity. I am sure a child's character is practically formed by the time it is four years of age, and we rarely have after that any marked heredity. There is a gentleman in England who has experimented with children. He has studied the children of thirty thousand criminals, and he finds that less than five per cent of them have turned out badly, which is better than in the average walks of life. The reason why we have so many marks of heredity is due to environment. A nervous mother begets a nervous child. It is under a nervous environment. The mother does not digest her food well. The child is not as well nourished as it should be, and therefore, you get a nervous child. I think we lay too much stress on the factor of heredity, and we mark people and condemn them to insanity when the mere thought of a predisposition to it often drives them to it. While life insurance companies follow the histories of these cases, yet we as physicians should educate and train these people away from these ideas and train them to avoid tendencies and environments that beget ills. The insurance companies have taken these histories of heredity because we have trained them to do so. They are gradually departing from it, and now they do not require us to give the grandparents' family history.

DR. W. FRANK GLENN, Nashville: How any man can say that heredity is not as much a mathematical rule as two and two are four, in the present light of scientific observation, I cannot understand. As a seed is so planted, so it must grow. If you plant weak seed, you get a weak plant. The sins of the father are visited onto the third and fourth generations. That is purely a physical sin, and after a pure cultivation of four generations it would be eradicated, but it may skip one or two generations, but it is just

as certain to show in some one or two or three generations as the sun shines.

Let us take the race horse. They started the race horse carefully, watching all generations hundreds of years ago, and today our thoroughbreds are better and of a higher order than ever before; they make greater speed and are of equal endurance because they are absolutely careful of pedigrees on both sides, physical perfection of health, and after they are born great attention is given to proper rearing. That is where environments come in. I believe there is one thing that is neglected after the child is born, namely, the proper amount of proper food, air, sunshine, and water. Nature will do more mentally and physically for the child than schooling alone if you put the child under nature's laws, fill it with red blood corpuscles, with oxygen, and give it exercise. If this is done you will be astonished what nature will do. It would be a good thing if we could regulate the marriage law. Just as you breed fine race horses, so you should not let diseased men and women have children. It is possible, and certainly ought to be done, and just so long as you allow breeding to go on as it is today our criminal courts will do no more good than they have done in the past. When you have a healthy individual—I mean by that the product of healthy parentage—you have no tendency in that individual to commit crime. So far as that individual is concerned you need no laws. You need no court-houses to control him. I think it is a dangerous thing for the medical profession to cast aside this strong hereditary influence. You have the hereditary stamp, but you must get rid of that before the child is conceived. After the child is born place him under the proper environment, and you have a perfect man.

DR. ST. JOHN (closing): In preparing my paper I did not try to give statistics, but endeavored to bring out one or two points. As I did not finish the reading of my paper when time was called, with the permission of the society I will finish it now.

THE MANAGEMENT OF SYPHILIS.*

BY W. F. GLENN, M.D.,
NASHVILLE, TENN.

In selecting a title for this paper I have preferred "The Management of Syphilis" over "The Treatment of Syphilis" for the reason that in the treatment of this disease more than any other the patient must be directed and controlled over a long period of time, otherwise our efforts to eradicate his malady would prove futile.

First, I would strongly urge against the routine of prescribing mercury and iodide

of potassium in the same dose to every patient and continuing it without intermission over a period of two or three years. I would earnestly advise that you treat each patient as a separate and distinct case, adapting your method, your dose and your remedy to each individual case. In other words, I would advise you not to treat syphilis, but to treat a patient suffering from syphilis. When a person applies for treatment I should insist on the observance of the following hygienic rules:

1. The patient should abstain strictly from all forms of hog meat.
2. He should abstain from the use of alcoholic stimulants.
3. It is best not to use tobacco.
4. The body should be kept clean by sufficient bathing.
5. The condition of the general system must be carefully watched and medicated accordingly.
6. The teeth should be carefully attended to.
7. Be moderate in all things.

If the patient is unwilling to abide by these rules, I would not undertake the management of his case. This is insisted upon in order to keep his system in as near normal condition as possible; in order that we may have the full force of the *vis medicatrix naturae*. When patients are placed under such hygienic surroundings as to get the full beneficial influence of air, sunlight, water, proper food and regular habits we may expect to see our medicaments do all we desire and our final results a happy patient and a satisfied doctor. All other physical derangements should be corrected by appropriate treatment and the patient's general condition be carefully watched and his system maintained in as high a state of health as possible throughout the entire management of his case.

Now, as to the medicines to be administered during treatment of this disease in any stage or in any form of its varied manifestations, we have only three, namely, mercury, arsenic and iodine. These medicines have been used for many years, formerly empirically, but in latter years ra-

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tionally and scientifically. A common prescription of nine years ago was bichloride of mercury, iodide of potassium and Fowler's solution, administered by mouth three times a day. In recent years we have used the hypodermatic administration of mercury, soluble iodide by mouth, and very recently salvarsan by the intravenous or intramuscular method. So if we reflect we will see that we are now using the same medicines to combat the disease that we did forty years ago; but now with such rational and scientific precision as to get their quickest and best results with the least injury to our patients.

About eighteen months since, owing to unfortunate newspaper and magazine advertisements, the laity were led to believe that in salvarsan we possessed a remedy that would completely and forever eradicate syphilis in one dose. I regret to say also that many physicians still encourage this same idea. Having lived through the period of Koch's tuberculin and Brown Sequard's elixir, I was slow to accept this view, while I sincerely and devoutly hoped it was true. Now, since it has only been in general use about fifteen months, syphilographers the world over are agreed that it is not a cure for syphilis; that in many cases it fails to relieve existing symptoms. After the use it is more the rule than the exception for the spirocete to reappear in the blood. So it is not yet decided, and will not be for years to come, whether six or a dozen doses will effect a permanent cure. Yet in many cases brilliant results have been obtained by its use, but the same thing has been obtained with mercury and iodine. So I would here reiterate what I said at the meeting of this association one year since, namely, that I regard salvarsan as a great addition to the therapeutics of syphilis, but I did not think it could displace mercury.

Having secured my patient's promise to obey me and thereby cooperate with me in the management of his case, I will outline my plan of treatment. I first disabuse his mind of the delusion that salvarsan in one dose is a sure and quick cure for his disease. I tell him that in all probability salvarsan

will afford a quick relief from all manifestations, but that he will almost certainly have to use more than one dose—how many no one can say. I also tell him that I believe in the end he will get equally as good results from mercury as from any other treatment. Now, if the patient leaves me to do exactly as I will I am guided largely by the stage of disease and existing symptoms at the time. If in the primary or early secondary stage I give one full dose of salvarsan and then suspend treatment for about four weeks. At the end of that time the Wasserman test is made. If it is positive I would give another dose or use mercury hypodermatically once a week for ten weeks. I would then suspend all treatment for another month and then repeat the ten weekly injections. This intermittent plan of treatment with mercury would be continued over a period of at least two years. After that I would discontinue all specific medication, but advise him to have the Wasserman test applied every six to twelve months for two or three years. If the patient presented an old case, with late secondary or tertiary symptoms, I should administer the full dose of salvarsan as before and afterwards continue with the intermittent hypodermatic injections of mercury. In addition I would give from ten to thirty drops of soluble iodine well diluted three times a day during the first few months of the suspension of mercury. My object in doing this in old cases is to free and dislodge any spirocetes that may be encapsulated, thereby freeing them and getting them into the circulating fluid, thus exposing them to the direct attack of the mercury. While we always enjoy and appreciate immediate relief of symptoms, it is final results we most desire in the treatment of this disease. We want the patient to go through life free from any reminder of his early malady, resting perfectly at ease in his mind as to his wife and offspring. Now, while salvarsan may be able to accomplish this result, it will be at least twenty-five years before that can be determined. It can be safely asserted that the original confidence in its power as a permanent cure has been

steadily losing ground with syphilographers the world over. It may prove to be a great addition to therapeutics of syphilis, yet in a few years of crucial testing it may meet the same fate as Koch's tuberculin or Brown Sequard's Elixir of Life. Every syphilographer can recall very many satisfactory results from mercury administered twenty-five or thirty years previously. I see patients almost daily who were treated almost thirty years since and who are so absolutely well that they have ceased to remember having ever suffered from this malady.

Now a word of caution as to laboratory tests. First in importance in diagnosis stand, in my estimation, clinical symptoms. Laboratory tests should be looked to to back up the clinical findings. In this disease especially many of our younger genito-urinary men seem to give the Wasserman test the entire stage. I do not hesitate to say if clinical symptoms indicated the presence of syphilis I should treat my patient for syphilis if all the Wasserman's were negative. The Wasserman serum test for the presence of syphilis has been before the profession for some years, so we are now able to judge of its merits as well as its limitations. The ease with which it can be used in all large cities render our medical men too prone to rely exclusively on such examinations for diagnosis to the exclusion of all else. A positive Wasserman in nearly every case, although not always, would indicate syphilis. A negative Wasserman, however, would not mean no syphilis. In conclusion, therefore, I would earnestly advise that in treating this disease you consider each individual case singly and alone, considering carefully the patient's general condition, his hereditary predispositions, his natural resistance, his willingness to follow rigidly instructions and his susceptibility to your medicines.

DISCUSSION.

DR. WILLIAM ST. JOHN, Bristol: I endorse the admirable paper of Dr. Glenn. He has brought out some very fine and useful points. Mercury has stood the test of centuries. Is it not a pity to discard such a true and trusted friend? Syphilis is not a very

fatal disease. Why run the risk of a dangerous remedy when safer, cheaper and infinitely better medicinal agents which are unquestionably supported by clinical experience and recent modern research lie ready to hand.

It is my humble judgment that salvarsan is inferior to mercury, and will never supplant it. The death roll from salvarsan is heavy, and some of them peculiarly tragic and sad.

The important question as to the permanence of salvarsan as a remedy is yet unsettled; that it does not cure syphilis or prevent relapse is quite evident.

Before any drug can replace mercury it must be proven capable of producing a more expeditious cure of syphilis, and also prevent the tertiary and parasymphilitic manifestations and promote the healing of syphilitic lesions with greater certainty and at the same time show less liability to relapse than is the case with mercury. It must also compare favorably with mercury as regards dangerous toxic effects.

The salvarsan enthusiast seems to have forgotten that it is quite a common thing for syphilitic lesions to disappear with marvelous celerity. Long before the days of Schaudin's discovery this wonderful disappearance of all symptoms of syphilis was a source of embarrassment by obscuring the diagnosis.

The great trouble about syphilis today is failure to recognize the disease early enough to put the patient on an intense treatment, so as to prevent the damage due to the poison. We now have a means which will enable us to make the diagnosis early and conclusive, and institute treatment at once.

There is one case I wish to cite in detail. It occurred last July in a man who was of exemplary chastity, who developed a classical case of Jacksonian epilepsy, with absolutely no history, and without any cause whatever. The man is of excellent family history, with growing children, well and strong, and there has been no abortion on the part of his wife. I had an X-ray picture taken of the man's brain, which showed nothing, yet he was having daily from ten to twenty distinct attacks of this form of epilepsy. I had a Wasserman test made, which was positive, and under the use of mercury; in less than ten days his entire disease passed away apparently. He is now in excellent health and vigor. I thought that case was sufficiently interesting to report to you.

DR. E. T. NEWELL, Chattanooga: At the Nashville meeting last year I read a paper on salvarsan. I reported at that time its intravenous use in fifteen cases. Since then I have used it in 155 cases intravenously, so I feel I have had a little experience with salvarsan. I remember at that time that Dr. Glenn discussed my paper, and we had a little tilt about the use of salvarsan at the time. I do not fully agree with Dr. Glenn in depreciating salvarsan as much as he seems to. I have, in a measure, changed my mind as to the utility of salvarsan. I realize that salvarsan is not a one-shot method, but in comparing it with mercury, in my opinion, there is absolutely no comparison between the two drugs for quick and imme-

diate results, and I may say for lasting results. In this series of 155 cases I have only had to give the salvarsan in about 25 cases a second and third time. Now, Dr. Glenn may say that we have not made a Wassermann test on these 130 cases. Well, I have not. You know the class of cases that come to you cannot afford to pay Dr. Litterer or some other laboratory man to have a Wassermann reaction made. We go by the same principle that Dr. Glenn goes on in giving mercury, and that is, the clinical results, and the results in these cases are just as good and better than the clinical results obtained by mercury. These patients have none of the manifestations of the disease in over two-thirds of the cases in a year's duration since using one dose of salvarsan. So I claim it is just as good and better than mercury, and much quicker.

Dr. St. John spoke of these cases clearing up in two weeks. I have seen them clear up in three days. I have seen a man who could not swallow, who could not bend his head on account of adenitis, yet the next morning or in twelve hours after giving him salvarsan he was able to turn his head and able to get out of bed and do anything he wanted to do; so that I claim that salvarsan is a wonderful and magical drug. It has come to stay, and has its place. I have never given more than a third dose. There are cases in which I believe mercury has a better effect than salvarsan, but in the majority of cases the effects are in favor of the administration of salvarsan. I give it intravenously, and I believe that is the proper way to give it. I believe the open method, cutting down on the vein (giving up trying to puncture the vein) is the method. I have tried that in some cases. Sometimes you can puncture the vein with the needle and get brilliant results, but you may go in, in front, and make a little puncture behind, then, pull the needle back and use the salvarsan. Some of the salvarsan may leak out posteriorly and if it does you will get a bad arm. So far as fatal results are concerned, I believe that any conscientious, careful man ought not to kill anybody in using salvarsan. I never expect to kill a man unless he has thrombosis, which extends up into the large vessels. As I have said, I give it intravenously, and give it by the open method. It leaves a little scar, and one that is a tell-tale, but if you sew it up neatly the scar is very small. If you do that, you should not have a bad arm, and if the patient should have a bad arm it will not last more than six weeks. It may slough and you will have to cut out all the fat and fascia and sew up the incision thus made.

DR. JERE L. CROOK, Jackson: I was much interested in this paper of Dr. Glenn, and I agree almost entirely with what he has said regarding the management of cases of syphilis, but I do not agree with him as to the comparison which he has made of the relative value of salvarsan and mercury and iodid of potassium. I do not agree with him also as to the limitations which he has put upon the use of this remedy. He has stated that we have for many years

been giving these drugs empirically. He might say that for hundreds of years the profession has been using quinine in malaria without having any adequate idea of why it was a dose of quinine would prevent the recurrence of malarial chills, and it was only about twenty-five years ago we found out that the malarial parasite had its habitat in the red blood cells, and quinine killed it in its lair.

We do not know really why mercury cures syphilis; but we do not cease giving drugs because of the fact we do not know why or how a disease is cured. We are now able to place a limitation upon the use of salvarsan, even when employed by competent men with a proper environment and in suitable cases, because of the fact that we do not know that it will be a permanent cure. But we cannot say in a given case of syphilis after we dismiss the patient at the end of three years' mercurial treatment that that particular individual will not have a recurrence of the syphilitic symptoms, nor can we tell him that he will not have evidence of the taint in his descendants, but we base the prediction of protection upon the average number of cases we have had and upon the average experience, and we assure him we believe he is free from the taint, and that if there should be a recurrence of the symptoms there should likewise be a recurrence of the treatment. Is it not much better to use a drug which, when properly administered, intravenously, will clear up the symptoms in a marvelous manner and in the briefest possible time with the least discomfort to the patient, and have the patient leave the hospital in two or three days, walk the street, and not have to take drugs all of the time, and who feels as though he is a man again? Granted that in some patients the dose has to be repeated once, twice or thrice, it is still a great improvement over the old methods of treating syphilis.

One other point in reference to the use of salvarsan. I must confess I was slow to take it up. In the first cases I used it in I gave it by the intramuscular method, and the patients complained for weeks. I did not have an abscess, but came very near it in one case. I discarded its use until I found an efficient technique which would appeal to me from a surgical standpoint for its use intravenously. I did not find that technique until I had occasion to go to Hot Springs, Ark., five weeks after I heard Dr. Martin describe his technique in the Memphis Medical Society. I went over there and saw him give salvarsan by his original method, and with his needle which he perfected. His technique was simple and appealed to me, and I have given it ten times in the last five weeks. I presume most of you are familiar with his method, which consists in using the needle detached, introducing it alongside the vein, then entering the vein at the side; and when the blood gushes out slip the tube over it, while the salt water is flowing through it.

DR. WILLIAM LITTERER, Nashville: Salvarsan is certainly a specific for syphilis in certain cases. Mercury is also a specific in certain cases of syphilis, but

we know that mercury will not cure syphilis every time. We also know that salvarsan will not cure syphilis every time. It has been shown by many of the German writers who had access to the drug a year before we did, and they have proven it abundantly by a number of cases that salvarsan will absolutely cure syphilis alone; that is, taking the cases running over a year and a half, and in which the Wassermann still remains negative. I have had the use of and access to salvarsan for something like two years in June. The Rockefeller Institute sent me quite a number of ampules long before it was on the market. I had a chance to experiment with this on a number of cases in treating them with salvarsan alone. Some of the early cases to which I gave salvarsan showed some remarkable recoveries—not after one dose, mind you, but as many as three doses. In other cases there were absolutely no results, or very little could be gotten from it in the way of obliterating the Wassermann reaction. The symptoms would disappear entirely, but the Wassermann would remain. Of course in these cases mercury had to be instituted. I agree with Dr. Glenn when he says that a combination of these two drugs in some cases will cause the spirochetes to yield readily to salvarsan, while in other instances the combination will not. Some of the types will yield readily to mercury, while the salvarsan does not do much good. I have not seen a case that salvarsan did not clear up the symptoms, but it will not do so in every instance and obliterate the Wassermann reaction. The two act as a double-edged sword. They should be used in combination. I have been following out the suggestion of Iversen in regard to salvarsan for a year and a half in the case of a patient who came with a chancre. The Wassermann was negative; that is, before the secondaries appeared. The chancre was excised. Spirochetes were found in enormous number and the salvarsan was used intravenously. One dose of salvarsan was given, and four days later another given intravenously, and four days after that it was given intramuscularly. In this individual not a single symptom has occurred since the administration of the drug. However, within the last few months this individual has developed another chancre, and only the spirochete was demonstrated, showing to a certain extent that the cure was established in the first instance, and that we used to think that the reason an individual did not contract the disease a second time was because immunity was established. It is believed now by many that such patients were never cured. Most patients were never cured, but had this slight Wassermann reaction which was in the blood enough to establish a kind of immunity, or, in other words, a patient who really had the disease should not catch it a second time.

DR. E. D. NEWELL, Chattanooga: About half of the cases that have been reported by Dr. E. T. Newell were my personal cases, and the others were referred to us together, so that I have had an opportunity of not only studying his cases, but also my own.

When we first began using salvarsan we were very enthusiastic about it, intensely so, because we did things under that treatment that no other treatment could possibly accomplish. In the first case in which I used it the patient had been treated for two years for syphilis by other methods. I saw the case with an initial lesion, and treated him very faithfully. He was a good patient, had lots of money, and there was no reason why he should not have had the best treatment. He received treatment by inunction; he got protoiodid; he received potassium iodid. He got metallic mercury and lanolin, which is an effective method of treatment. He still had the lesions, and it was impossible to cure the lesions of the mouth, the cracks about his lips, or the edges of his gums. He went to Hot Springs, spent two or three months there, took the baths faithfully, was a man of moderate habits, did not drink, and still he was not relieved. The clinical symptoms were present. After two years of faithful treatment I gave him salvarsan, and in the first ten days there was complete relief of all symptoms. He has not had a mucous patch in his mouth since. He has not had soreness on his tongue; he has not felt badly. He has not shown any symptoms of syphilis since that time.

Another case that came under my observation about the same time was a boy that belonged to the navy. He was treated in the navy hospital in Boston, and was finally sent home to die. They used every method of treatment without avail. He had necrosis of the maxilla; about half of the teeth were out. He could scarcely swallow anything; he was a most pitiful object. When I first saw the boy I gave him hypodermic injections of mercury, with lanolin, and he improved a great deal. But still he was not relieved very materially. I then gave him salvarsan, and it is now about a year and a half since I gave it. He has gained fifty pounds in weight since that time and is in perfect health. There is now no indication of syphilis so far as the clinical symptoms are concerned.

There were two cases in which every form of treatment other than salvarsan was tried without effect, and each case received but one dose of salvarsan, with no return of the symptoms. We know of many other similar cases. We have had other cases with complete relief, but in thirty days the symptoms have returned. We have given a second dose, and in a few cases we have given a third dose. There is no question but what we have to use salvarsan in some cases in one or two doses, but this drug is pre-eminently the best agent we have today for the treatment of syphilis.

DR. W. M. McCABE, Nashville: There is no doubt but what salvarsan is a wonderful remedy and a wonderful tonic; but after a somewhat extensive experience I have arrived at just about the same conclusion that Dr. Glenn has arrived at, namely, that while salvarsan in some cases will produce an absolute cure, I would say in ninety-nine per cent of the cases it is only an adjunct to the treatment by mercury. We have

given it intravenously almost entirely, and in some of the cases we have seen wonderfully marked improvement. In other cases we have not seen any improvement whatever, and in one case I had a patient who showed absolutely no symptoms of cerebral gumma at the time of the injection five weeks after the injection of salvarsan from cerebral gumma. We have constructed an apparatus that is simple, consisting of a normal saline bottle, like an ordinary bottle you give saline with subcutaneously, and saline intravenously with. Instead of having two bottles, two tanks, we leave some of the saline run into the vein, and after so much has gone, and we are sure the needle is in the vein, we pour the salvarsan solution into the saline solution and allow this to run into the vein. This is a simple apparatus you can have made, or you can buy it at any instrument house for three dollars. I have seen some cases in which it was given where there was a chancre, and that chancre or skin lesion would disappear almost miraculously. But I have seen other cases in which mercury had no effect, and I have seen cases in which salvarsan had no effect. I have one patient now, a farmer, who was given salvarsan. He has mucous patches; he has little fissures on his lip, and salvarsan had absolutely no effect so far as these fissures were concerned. We put that man on mercurial inunctions, and since that time he has gained twenty-five pounds in two or three months; all of the symptoms have disappeared, and he is absolutely well. As I have said, salvarsan in ninety-five per cent of the cases is an adjunct to the treatment of syphilis by some mercurial preparation.

DR. EDWIN B. ANDERSON, Chattanooga: I have had considerable experience with the intravenous method only of giving salvarsan. I have given it seventy-five times in my own practice and for other men. There are cases where the gravity method will not do in my practice. You take a woman with a small vein, if you have a small needle, it is almost impossible to give salvarsan with any degree of satisfaction. I have tried it a few times and it would not gravitate, and I have abandoned it for good, when administered in that way; if we have a large vein and a large needle, we have no trouble in injecting it. The last six times I have used salvarsan I have explored every single vein because I had a bad needle. Two weeks ago a man had cellulitis and was not able to attend to his work for ten days thereafter, but he finally came around all right.

As to the preparation of patients for the administration of salvarsan, I give them a dose of castor oil the afternoon before and nothing to eat six hours prior to its administration, and never put the patients in a hospital. I do not give them morphine. It is unnecessary. I take them back to their homes, and soon after they go on with their work. It is an unnecessary expense to put them in a hospital. Taking them off of their work is also unnecessary. I do not recommend it.

There is one point I have observed. Where you have a small vein, where the blood current is small,

it is a good idea to puncture one vein near its bifurcation because the stream from the other vessel will carry the solution on and it will go easier. To every single case of primary syphilis I give a second dose of salvarsan. I have given it to several patients three times. To one woman I gave a fourth dose. The results I have obtained from the use of salvarsan have been gratifying, and I have no hesitation in saying it is a great remedy. I believe in it strongly, but I keep on using mercury just the same.

DR. L. WEBSTER FOX, Philadelphia: I have been much interested in this discussion, because I have a colleague, Prof. Daland, who spent three months in Ehrlich's laboratory. Dr. Daland is one of the most expert dispensers of salvarsan we have in Philadelphia. It has been my privilege to see a great many of his cases. He practiced originally intramuscular injections, which gave us considerable trouble, and he subsequently followed the intravenous method of injecting salvarsan, and since then he has had no bad results.

The point I wish to emphasize more than anything else is the relationship which the ophthalmic surgeon bears to the general surgeon in these cases. As is well known, syphilis vents itself upon the intraocular structures, and we have, of course, in consequence, very serious results. In a great many cases in which we have used salvarsan we have had very excellent results. In fact, we consider salvarsan now in ophthalmology almost one of the sovereign remedies to get rid of syphilitic choroiditis and everything excepting optic neuritis. That is the principal point I wish to emphasize. With us in Philadelphia nearly every case submitted to the surgeon naturally is first examined by the ophthalmic surgeon, because I have found in these cases, where there is a persistent anemia, where practically the nerve looks white, the circulation in the eye of the patient is not what it should be. We use a great deal of discretion and a full dose is not given. Dr. Daland is now giving one-third of the dose in these cases at our suggestion. The dose can be repeated after the Wassermann reaction has been made, and if we find the spirochetæ are still in evidence we wait a certain time then give another injection, and so on.

We have now and then cases, as Dr. Glenn has said, in which probably salvarsan is not as efficacious as mercury or the mixed treatment.

I wish to mention one case that came under my observation in consultation quite recently, where the individual in an anemic condition was given a full dose of the drug, the patient having optic neuritis before in one eye. That was a serious complication. That patient entered the Medico-Chirurgical Hospital and he was watched with interest. As you all know it has been said that where there is evidence of any neurotic trouble salvarsan should not be given. The point I wish to emphasize in this discussion is that you general surgeons should have at your right hand a good ophthalmic surgeon to examine the eye grounds, and when there is a pale anemic condition

of the optic nerves existing you should be very careful not to give a full dose of salvarsan—about one-quarter of the usual dose.

DR. J. W. BRANDAU, Clarksville: It seems to me there is one practical point that has not been mentioned in this discussion so far, and that is the fact we have the Wassermann reaction still positive in cases where the salvarsan has been administered. I think this can be explained by the fact that we have isolated foci; that is, the spirochetes have not been reached by the salvarsan on account of having been walled off by inflammatory tissue to some degree impervious to the circulation, and consequently the salvarsan did not reach these foci. In those cases mercury comes in well as an interval treatment, and should be used.

DR. PERRY BROMBERG, Nashville: I wish to call attention to a fact that has been overlooked in connection with this discussion. I realize that salvarsan plays an important part in the treatment of syphilis. I thoroughly agree with the essayist that we are now permitting it to cloud our knowledge of the treatment of syphilis by means at our command, whose virtues are well known, namely, mercury. I have had considerable personal experience with the use of salvarsan. I have used it intravenously, and intramuscularly. The gentlemen who have spoken all seem to be unanimously, or at least most of them, of the opinion that the intravenous method is the method of introducing this drug. I rise to condemn the method. The latest reports that I have been able to read and to which I will refer are those of Prof. Gottheil, in which the Wassermann reaction was made by no less an authority than Nogouchi himself, showing conclusively that in a large percentage of cases in which the drug had been administered intravenously a positive Wassermann reaction may be expected to recur within three months; that in six per cent of a series of thirty-two cases, in which the intravenous method was adopted, nephritis with casts, granular, hyalin and epithelial, were found in the urine, and usually persisted. This was not so in a series of thirty-two cases in which the intramuscular method was used. I believe, therefore, gentlemen, that if we are dealing with a drug that is capable of producing nephritis in six per cent of the cases it is a serious proposition that we have to contend with. We have not been using it long enough to determine its evil results. We, of course, all agree as to the magnificent beneficial results that accrue at times, but that there is harm in the administration of salvarsan there can be no doubt. I simply rise to warn against the promiscuous use of the intravenous method, particularly of large doses, such as are now being generally used, and of giving it to every person indiscriminately without examination of the kidneys, without due regard for kidney secretion. I would like to ask Dr. Fox as to the percentage of eye complications that have occurred in his cases or series of cases. Certainly the kidney is a factor to be considered in the intravenous method of administering salvarsan, and

one to which I thought I should direct your attention.

DR. GLENN (closing): When I read the paper I thought it would elicit a thorough discussion, and it has done so. That was the main object I had in view in presenting this paper. This discussion has convinced me more than ever of the ground I take today, and the ground I took a year ago, and that is, salvarsan is still in the trial stage, and as I said in the paper it is a great addition to the therapeutics of syphilis. The men who have discussed my paper seem to think that I condemned salvarsan entirely. If left to do as I please I would always in an old or recent case give one full dose of it first, but after that if left to myself I would follow it with intermittent doses of mercury. I know there has been no remedy introduced that acts so quickly and immediately and eradicates the prominent symptoms in syphilis as does salvarsan; but one year, five or ten years cannot determine the permanent curability of syphilis by any remedy. We have been using mercury for over four thousand years; we have been using it scientifically for fifteen or twenty years, and while Dr. Newell referred to one year and no return of the symptoms of syphilis in his cases, that is not a drop in the bucket in syphilis.

I saw a case that went to Dr. Graddy to have his throat examined. After the doctor had carefully examined he said, "You want to go to see Dr. Glenn; you have tertiary ulcer of syphilis. Eighteen years since this patient had had syphilis. He went to a quack who gave him mercury for three months and told him he was well. There was a typical tertiary ulceration which I treated by hypodermatic medication of mercury, and since then he has remained well. I may be wrong. You have not had time to establish a permanent cure of syphilis by the administration of salvarsan, and whatever general practitioners may say with regard to this drug, the syphilographers the world over are losing faith in it every day as a permanent cure for this disease.

A test of cure is the conditions of the patient years after any treatment. The gentlemen by their remarks in the discussion have proven by their observations just what I am contending for. I have lived through the age of revolutions in medicines. I saw the medical world go wild over Koch's tuberculin for tuberculosis, and I have seen this relegated to oblivion. What I wish to say to you is simply this: Go slow. Do not be in too big a hurry. Use salvarsan, but not indiscriminately. Dr. Bromberg brought out a very important point when he referred to Gottheil, who had Nogouchi to assist him in his work. There is danger to the kidneys from the use of salvarsan, hence it is very essential to be careful in its use. You have got a patient to treat. Do not treat syphilis. Treat the patient. Treat the patient affected with syphilis. Bring him to the best condition you can. Leave him well. Do not eradicate the spirochetes and injure the patient. I stand today where I did a year ago with regard to three remedies. I do not regard the iodides

in any degree as curative of syphilis. They are only an aid. The iodides will only loosen up the encapsulated spirochetes and build up the blood, but the two remedies that are useful in the treatment of syphilis are arsenic and mercury. There is much difference in the effects of mercury by the manner and preparation in which it is given. Salvarsan is still in the balance. It is still being tried, and the verdict is not yet delivered.

ETIOLOGY OF DIABETIC GLYCO-SURIA.*

BY W. K. VANCE,
BRISTOL, TENN.

Were I asked to select that disease from the large list with which humanity is afflicted which best demonstrates the progress made by our profession in unveiling the mystery that so often surrounds abstruse pathological conditions, I would unhesitatingly mention diabetes mellitus.

While its etiology and pathology is not yet definitely settled, we could not present a better exemplification of the progress of rational medicine than by contrasting the past and present views of the profession concerning this disease. A short retrospect of its history will not be profitless or uninteresting.

As would naturally be expected of a disease, the most prominent symptom of which is so conspicuous to all, diabetes early attracted the attention of medical men, and those who care to delve into "quaint and olden volumes of forgotten lore" can find frequent references to it by the early Greek and Roman physicians. They, however, had no well-defined ideas as to the essential nature of the disease, namely, its saccharine character, but considered it simply a rapid discharge by the kidneys of the liquids taken into the stomach, without having undergone any change by the digestive and assimilative organs.

Aegeneta, an authority in the days of the Caesars, says: "Diabetes est subitus potulentorum exitus, talious per urinam redditus qualia pota fuerunt," that is, "Diabetes is a sudden discharge of liquid drinks which are

voided by the urine such as they were taken in by the mouth." Celsus, too, says: "Diabetes consists of a greater discharge of urine than there are fluids taken in by the mouth," and Aretaeus, who gave a very accurate description of the phenomena of the disease for his time, defines it in the same way.

Galen, one of the honored fathers of medicine, regarded it as a kidney disease. He says: "A high degree of appetency or irritation exists in the substance of the kidneys, in consequence of which they attract the matter of urine with great vehemence from the vena cava; that an equal degree of atony and relaxation exists in their orifices or pores, so that the same matter flows off unchanged as soon as it reaches them."

This general view of the disease was adopted by the profession and descended with little variation from one generation to another until the reign of Charles II of England, when Dr. Thomas Willis first called the attention of practitioners to the curious and important fact that the urine of diabetic patients contained "a saccharine principle." (I might mention in passing that this is the same gentleman who erected a monument for himself in anatomical nomenclature by manufacturing out of the internal carotid and vertebral arteries, for the delectation of medical students, the well-known ring known as the circle of Willis). This discovery caused Willis to abandon the accepted theory of the profession as to the renal origin of the malady. In his writings he thus expresses his opinion: "Diabetes is rather an immediate affection of the blood than of the kidneys, and thence derives its origin; for the mass of the blood becomes, so to speak, melted down and is too copiously dissolved into a state of serosity, which is sufficiently manifest from the prodigious increase of the amount of urine which cannot arise from any other cause than from this solution and waste of blood."

This hypothesis of Willis was immediately adopted by his distinguished contemporary, Sydenham. Thus advanced and advocated by two of the brightest luminaries that enlightened the medical world at that time, it

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cannot be a matter of surprise that this opinion should have been extensively adopted. They even went a step further and enunciated the belief that this "dyscrasy of intemperament of the blood," to use their own words, "was produced by a morbid action of the assimilating powers."

History proves that these two great men were ahead of their time. Had organic chemistry kept abreast of the other branches of medicine we would never have had at this juncture an instance of "truth being crushed to earth." The fact is that this great step forward in the elucidation of the causation of diabetes had to be abandoned for a time because no chemist could detect the saccharine principle in the blood. They could find it in the chyle, lymph and urine, but no trace of it could be detected in the serum of the blood.

Accordingly we find it recorded that the Aesculapian Society of Edinburg, Scotland, "unanimously awarded its prize for the year 1778 to Dr. Charles Darwin for his essay on "The Retrograde Motion of the Lacteals." His theory was this: "Diabetes is produced by the backward flow of chyle and lymph; that instead of flowing from the periphery to empty into the subclavians, the current is reversed; that the urinary branches of the absorbents which are connected with the lacteals with many anastomoses have their motions reversed and a large quantity of pale, unanimalized urine is thereby discharged."

To Dr. Dobson, of Liverpool, in the year 1779 is due the credit of the discovery that the "saccharine principle" of diabetic urine is due to the presence of sugar. Fifty-six years thereafter, in the year 1836, Dr. Ambrosiani, of Milan, Italy, isolated crystals of sugar from the serum of diabetic blood, and from that discovery we may date the first practical scientific advance in the elucidation of this complex problem.

But a halo of light that obscures all previous discoveries as to the etiology of this disease dawned upon the medical world about the middle of the nineteenth century, when the brilliant French physiologist, Claude Bernard, to whom science is so deep-

ly indebted, made known for the first time the glycogenic function of the liver. This discovery of Bernard's revolutionized the ideas of the profession temporarily as to the causation of diabetes. What hitherto had been an unsolved problem now appeared as bright as the mid-day sun, and the poor old liver, which has been more maligned than any other organ of the human body, at once received the maledictions of the medical fraternity for being responsible for another human ill.

Pardon me for dilating on a subject well known to you all. As before stated, the presence of sugar in the blood, saliva and alimentary canal of animals fed on saccharine and amylaceous food had been frequently noted. The experiments of Bernard, however, proved that the animal organism had the power of forming sugar irrespective of the nature of the food, and that sugar exists in certain parts of the circulation—from the hepatic veins to the pulmonary capillaries—all the time in both the herbivorae and the carnivorae.

In addition to this he taught us that the lungs and liver stand in an inverse relation to one another so far as sugar is concerned. In a fasting animal the blood going to the liver contains no sugar, while that leaving it does. On the contrary the blood going to the lungs contains sugar, while that leaving it does not. The sugar in this physiological state remains hidden between the liver and the lungs, and for this reason its elaboration by the liver was not sooner discovered.

Furthermore, by the examination of the substance of the livers of three healthy criminals and that of a diabetic patient who died suddenly of pulmonary apoplexy, he found the relative quantity of sugar to be in the proportion of 22 grammes in the former and 57 grammes in the latter. How natural then it was to conclude that the causation of diabetes had been definitely settled! That it was nothing more nor less than the production of a larger quantity of sugar by the liver than could be utilized by the organism, and hence its appearance in the urine.

Thus far, then, Bernard and many of his

contemporaries believed that this much-mooted question was definitely settled. But Bernard's inquisitive mind was not yet satisfied. He longed to know the ultimate underlying factor concerned in the causation of this superabundant production of sugar. By experiments on the lower animals he had found that he could produce glycosuria at will by puncturing the middle line of the floor of the fourth ventricle exactly between the origin of the pneumogastric and auditory nerves. That if the puncture is above the center near the origin of the auditory, there will simply be an increase in the amount of urine. If near the origin of the pneumogastric, there is no polyuria, but sugar in abundance results. Hence he concluded that diabetes is the result of some exciting cause, whose reflex action conveys the stimulus to the medulla oblongata, whence it is propagated by the spinal cord and filaments of the great sympathetic nerve to the liver and thus excites its glycogenic function.

This theory of Bernard's was so beautiful and ingenious that it deserves to be true, but it is not. Were it true, we could naturally expect always some evidence of lesion in this "diabetic area" discoverable macroscopically or microscopically in autopsies on diabetics. While such evidence is sometimes found, it is generally in cases of transient glycosuria, but seldom, if ever, in persons dying of true diabetes.

Later investigations have shown that if before making the puncture the liver is freed from glycogen by starving or chasing the animal, glycosuria is not produced. Absence of glycosuria is also the rule if the punctured animal has previously been carefully poisoned with strychnia or several of the narcotic poisons, also by phloridzin, caffeine or theobromin. There is but little doubt that all the traumatically and toxically produced cases of glycosuria are of hepatic origin, that is, are due to the expulsion of glycogen from the liver under the vaso-motor nervous influence. Glycosuria produced in this way only lasts as long as the glycogen accumulated, sometimes in large, sometimes in small quantities, con-

tinues to be given off, or until the excess of sugar thrown into the blood has been eliminated by the kidneys or used up by the tissues.

As will be seen by the foregoing, diabetes has a more restricted meaning than formerly, in that, according to modern ideas, it is "a chronic disease in which glucose is excreted in the urine when the diet does not contain more than a normal amount of carbohydrates, thus associating it with its most important clinical symptom," and differentiating it from other conditions attended with glycosuria, to which the name diabetes was formerly applied. It is a well-known fact that a comparatively healthy person is frequently the subject of chronic glycosuria when living on a diet abnormally rich in carbohydrates, but these constitute the so-called cases of alimentary glycosuria, and must not be confounded with true diabetic glycosuria in which sugar is constantly present in the urine when the diet does not contain an excess of carbohydrates.

We now come to the consideration of the most interesting and practical part of this question, and it is along this line of research that this terra incognita has been forced to yield up to medical science much of the practical knowledge thus far acquired, and it is more than probable that it will be along this line that future investigators will be enabled to explain satisfactorily all of the mooted points relative to the etiology and pathology of this interesting disease.

In the year 1833 Richard Bright reported a case "of jaundice in which fatty stools occurred, and the urine had a sweet taste." Sad for the patient, but fortunate for science, an autopsy was later held on this patient and a scirrhus was found occupying the head of the pancreas.

Many careful observers have since noted the fact that diabetic patients are frequently found postmortem with cancer, sclerosis, or cystic disease of the pancreas.

Prof. Von Mering, of Strausburg,, was one of the earliest experimenters on the lower animals to determine the position occupied by the pancreas in the causation of diabetes. The result of his observations

established the fact that the removal of the pancreas was followed by permanent diabetes in the animal, resembling the severest form of the disease in man. The hunger and thirst was greatly increased, and though well fed the animal emaciated rapidly. As proof that the disease is not due to traumatism, but to the loss of the pancreas, he ascertained that if a small section of the gland was allowed to remain glycosuria does not result. He also established the more remarkable fact that after the removal of the entire gland and glycosuria is occasioned thereby, if a portion of it is grafted under the skin, sugar disappears from the urine. Experimentation along this line has developed another significant and important fact, and that is when the pancreatic juice is cut off from the duodenum by ligating the pancreatic duct, glycosuria is also absent. This forces the conclusion that besides the pancreatic juice, which may be regarded as the external secretion of the pancreas, it also produces an internal secretion which either aids in destroying the sugar produced by the liver or else inhibits its glycogenic function, thus enabling glycolysis to keep pace with glycogenesis. In confirmation of the correctness of this conclusion I simply mention the well established fact that if grape sugar is given an animal that has lost the pancreas, the whole of the sugar can be recovered from the urine.

This, like Bernard's, is another beautiful and plausible theory in explanation of the causation of diabetic glycosuria, but scientists are ever iconoclasts and I almost regret to state that more recent investigations have to some extent controverted it. Candor necessitates the confession that until we possess more accurate knowledge as to the minute processes of metabolism there is much about it our finite minds cannot comprehend.

Examination of the postmortem tissues of diabetics shows not only the already mentioned hyperglycaemia, but also the extraordinary poverty of the organs in glycogen. Late experimental results of pancreas extirpation and the puncture of the

liver of living diabetics has confirmed this. There is no question but that the incapacity of the organs to manufacture and store glycogen explains all the peculiarities of diabetes. It accounts for the hyperglycaemia which is evidently the cause of the glycosuria. The carbohydrates absorbed from the intestine can find no resting place. In consequence of not being utilized by the tissues as fast as they reach the blood, hyperglycaemia and glycosuria result, which is most intense when the absorption of carbohydrates is at its greatest height.

We now come to the most important question confronting the profession today so far as the elucidation of this question is concerned, and that is: "What is the cause of this defective formation of glycogen?" He who can certainly solve this riddle will settle the etiology of diabetic glycosuria and make humanity forever his debtor. At no time in the world's history have there been so many competent, consecrated and indefatigable workers in this field of research, and in the near future, I am quite sure, this arcana will be forced to yield up to inquisitive man all its secrets.

Perhaps no more astute and laborious investigator has tried to unravel this enigma than Prof. Lepine. According to him, the amount of glycogen is decreased for the reason that the "glycogenic ferment" in the blood is diminished in spontaneous diabetes in man, just as it is after the extirpation of the pancreas. Physiologists inform us that the glycogenic ferment is analogous to the oxidizing ferments universally present in the organism, but that their action is so feeble that only a small part of the sugar which a normal man transforms each day could be destroyed by them. Moreover, careful investigation shows that there is but little if any difference in the amount of ferment present in normal and diabetic blood. These well established facts have robbed Lepine's theory of the foundation on which it is based, and he has acknowledged his error and is now of the opinion held by physiologists generally that it is not in the blood, as he formerly believed, but in the tissues that the decomposition of sugar occurs.

Cohnheim, who has given much time and study to this subject, and who has been quoted by most of our text-books in recent years, in an effort to explain the deficient formation of glycogen, adduced the theory that neither the pancreatic juice alone nor the muscle juice alone produces any considerable glycolytic effect, but that when both juices act conjointly upon sugar a most remarkable destructive effect is produced. Like Von Mering and Minkowski, he believes that the pancreas gives off something which when, carried to the tissues by the blood, enables them to destroy the sugar. Cohnheim gave to this hypothetical substance the name "activator of the pancreas." His theory, like that of Lepine, however, has failed to stand the scrutiny of recent investigation, as Embden and Claus, of Von Noorden's laboratory, have proven that if the muscle juice can be kept aseptic its glycolytic power is not altered by the addition of pancreatic juice, a matter to which Cohnheim had not given sufficient attention.

Prof. Carl Von Noorden, perhaps one of the most distinguished authorities on diabetes and kindred affections in the world today, while accepting the views of Lepine and Cohnheim as to the part played by the pancreas in the etiology of diabetic glycosuria, explains its *modus operandi* somewhat differently, and I hope that plagiarizing from so renowned an authority will not be considered a serious offense.

According to Von Noorden, instead of the pancreas elaborating a ferment the function of which is to contribute to the formation of glycogen, he believes it supplies to the blood an anti-ferment, the office of which is to prevent the too rapid destruction of glycogen. All tissues of the body, the muscles especially, as is now admitted by all authorities, have the power of destroying glycogen, and for this reason it is impossible to work quickly enough to ascertain correctly the amount of glycogen in the organs. Glycogen during this diastatic process is always transformed into sugar which cannot be appropriated by the tissues.

If then the pancreas furnishes an anti-

ferment which serves as a restraint to the diastatic ferment, a deficiency of such an anti-ferment would produce exactly the same result as a deficiency of the ferment favoring the fixation of glycogen. Poverty of glycogen in the organs and over-abundance of sugar in the blood would be the inevitable consequence, and the cardinal symptoms of diabetes would necessarily ensue. I wish, however, to call your attention particularly to the fact that this hypothesis tends in quite a different direction to those of Lepine and Cohnheim. These authorities concern themselves with anomalies of the glycolytic process, while Van Noorden has in view anomalies of the diastatic process. Please bear in mind this important fact that the two views have this in common, that they assume that there is a substance elaborated by the pancreas which in some way not yet understood disturbs the normal metabolism of carbohydrates in the body of a diabetic.

So deeply rooted has the doctrine of pancreas diabetes become that there are few who longer doubt it. But the anatomical alterations in the pancreas, even in very chronic and very severe cases, are often slight and difficult to discern, and for this reason there are yet a few "doubting Thomases" in the profession who are not inclined to accept the pancreatic theory as conclusively established.

To such objectors Von Noorden says: "Whatever the solution turns out finally to be, this much is certain at the present time, namely, that the specific diabetic disturbances of the pancreas are not necessarily connected with visible anatomical alterations in the tissues of the pancreas. For those cases are very frequent in which the most conscientious anatomical examination has failed to bring to light any pathological change, or at most has revealed a very slight increase of connective tissue. It is evident that very severe disturbances of chemical functions may occur in this organ without impressing their image on anatomical structure. We are still so much under the influence of that glorious epoch in which pathological anatomy was the only mistress from

whom scientific medicine could learn with profit, that it is often difficult for us to realize that important disturbances of function may occur when microscopic examination reveals no distinctly pathological changes. In formulating any theory about diabetes, however, it seems to be necessary to let go such ideas and seek for the root of the matter in those disturbances of the intracellular chemical mechanism which, though often accompanied by anatomical changes of the organs or perhaps caused by them, may yet develop without any structural alterations. Of the nature of these chemical disturbances one cannot even hazard an hypothesis."

It is not definitely known what part of the pancreas manufactures this anti-ferment. In recent years it has been taught that the pancreas really consists of two glands which are quite independent in their development and function. One part, it is held, furnishes the secretion and digestive ferment, while the other part, consisting of solid ductless masses of cells—the so-called islets of Langerhans—is supposed to furnish the substance which is essential for the metabolism of the carbohydrates and to pass it into the blood. Pathological anatomists assert that these two different parts of the pancreas may become diseased and degenerate independently the one of the other, and that anatomical alterations which occur in diabetes concern especially, and sometimes exclusively, the islets of Langerhans.

A very important and interesting question is whether the hyperglycaemia is a result of the over-production of sugar or whether it results from under-consumption of hydrocarbons on the part of the organism. The question is an old and complicated one; old in that it has been much discussed ever since the essential character of diabetic urine was first pointed out by Dobson, and complicated because it takes us into the labyrinths of physiological chemistry.

At this time it is generally conceded that in diabetes we have both an over-production and under-consumption of sugar. The tissue cells of a diabetic individual are bathed in a superfluidity of sugar because of this

over-production, and for the further reason that they are unable to utilize it. It is another instance of, "Water, water everywhere and not a drop to drink."

Prof. Weichselbaum, in an article published recently in a Vienna medical journal, the name of which I refrain from mentioning for the reason that I do not carry an accident policy on my inferior maxillary, gives strong corroborative testimony as to the correctness of Von Noorden's views. This paper is based upon 256 autopsies. One hundred and eighty-three were patients who died of diabetes and seventy-three had died of chronic tuberculosis. He found the islands of Langerhans strikingly diseased in every case of diabetes, while the tubercular subjects showed no evidence of a similar condition. He is of the opinion that it is not any special changes in the islands, but the extent of involvement, which determines the development of diabetic glycosuria. He furthermore states that in some non-diabetics the parenchyma was so much atrophied that the weight of the pancreas ranged from 35 down to 20 grammes and yet the islands were not diseased, and that though the urine had been frequently examined during life for sugar none had been detected. He states that the type of the diabetes corresponds with the different forms of the changes in the islands, the graver forms accompanying complicating arterio-sclerotic changes in the islands. The practical deduction is that everything favoring arterio-sclerotic changes should be carefully avoided when diabetes is feared or is present.

DISCUSSION.

DR. WILLIAM LITTERER, Nashville: Within the last decade an immense amount of work has been done on diabetes, especially with reference to the discovery of the etiology. To Opie, I suppose, we owe more for the discovery of this condition, especially with reference to the study of the pancreas, than to any other one man.

There are many theories or many conditions that will produce glycosuria, such as a disturbance of function in the region of the fourth ventricle, shock and various other conditions, but the real cause of diabetes, I believe, lies in the pancreas. That is the consensus of opinion. Now, in the pancreas we have

not only an external secretion, but an actual internal secretion, like the suprarenal glands,, and like the thyroids and many other ductless organs. These ductless glands in the pancreas are known as Langerhan's bodies. There is an internal gland that secretes, and it has no outflow, and it has been definitely shown by Opie and many others that this secretion is a substance that directly has something to do with the sugar forming elements of the body. Whatever it is, there is something that mixes with the glycogen or the sugar, and it prevents it from being excreted or thrown out by the kidneys. This you can produce experimentally by removing the pancreas. In a great number of cases of diabetes, these bodies will be found to be diseased. Against this view there are cases of pancreatic diabetes or true diabetes simulating or giving all the classical symptoms in which these bodies are not diseased. But they may be functionless, and under the use of the microscope we cannot say they are diseased. It is just the same as in insanity, or in hysteria, or in many other conditions in which we know there is a definite pathology, and yet we cannot find it. Of course, there may be other conditions which produce glycosuria which may not be attributed to the areas of Langerhans. In two cases I recall to mind there was streptococcus infection. There as a hidden abscess, producing the identical condition, and the patient ran along with glycosuria for over eight months.

This man had an abscess; the subphrenic abscess was opened, and there was drainage established. After injecting a streptococcus vaccine for a period of three months the glycosuria diminished, and the patient finally recovered. But he had all the classical symptoms of diabetes, and it was so diagnosed. He had the furunculosis, drank a large amount of water, ate a great deal, and the case was typical as to the polyuria, a large amount of sugar in the urine being constantly present for eight months.

DR. W. J. BREEDING, Ravenscroft: About eight years ago I was called to see a man in convulsions, and I found on examination he had a punctured wound entering the cavity just above the right eyeball. He received this wound by a pitchfork. He was up in the bar loft, and a man was pitching hay, and he accidentally shoved the pitchfork into the cavity in that locality. The convulsions were controlled. I have forgotten how many convulsions he had, but there were quite a number. The man was in perfect health at the time, but he immediately developed polyuria. On examination the urine was found to contain small quantities of sugar. This man has kept up his polyuria for all these years.

DR. VANCE (closing): Along the line of the remarks made by Dr. Litterer, if the society will permit me, I will finish the reading of that portion of my paper bearing on that phase of the subject.

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EDITORIALS**"SWATTING THE FLY."**

One of the most significant and promising of the many present day manifestations of popular interest in health matters is to be seen in the active campaigns against the house-fly. When it became generally understood that this pest, in addition to being a filthy nuisance, is perhaps the most common of all agencies for spreading typhoid infection, the public began to take notice. And when the ease and simplicity with which protection may be had were realized, results of a practical kind began to follow.

"Swatting the fly" campaigns are now being conducted throughout the country. In Nashville as well as many of the smaller towns of the state funds are available for the purpose and the school children are turning in dead flies by the thousands, being paid at the rate of ten cents per hundred. Approximately twenty-five thousand were delivered at the "fly office" in Nashville during the first week of the campaign.

When it is remembered that the fly reaches full maturity in ten days, and that a single female fly will deposit several hundred eggs at a time, the possibilities of increase are at once apparent. It has been calculated that the offspring of a single industrious female may in one season reach well into the billions in number. Destruction of such a fly now would, of course, mean the prevention of this horde of descendants.

Another of the effective means of combating the evil consists in the clearing away of all possible breeding places. The favorite spot for this purpose is the manure pile, though refuse of almost any kind allowed to remain undisturbed for as long as ten days may be utilized by this unesthetic in-

sect. The necessary corollary of the "swat the fly" crusade must be the "clean up" slogan.

Enforcement of the screen law is doing great good in this connection. But it should be extended. All residences should be screened, and, inasmuch as many renters are not able to do this for themselves, the passage of a law requiring that all residences rented shall be screened by the owners would be both wise and just. In the average rented house the cost would be small, even though the work had to be renewed every spring.

Altogether the signs of the times, as they refer to health questions, are most hopeful. A century or even a generation hence the common house fly, along with the mosquito and other harmful insects, may be as rare by reason of the commendable efforts of an enlightened population, as the buffalo and wild pigeon are today.

ALCOHOL IN CANDY.

It is becoming more and more evident that commercial greed is the most serious and threatening evil of the present generation. It requires no acuteness of mental vision to perceive that at the bottom of the social unrest of the day stands avarice, opposing the enforcement of existing laws and the enactment of others looking to the protection of the public health, constantly devising new schemes to defraud the people by playing upon their ignorance and credulity, condoning vice and even openly promoting immorality for the sake of unearned and unclean gain.

A recent example of this unscrupulous greed was unearthed by the Pure Food and Drug Inspector in several Tennessee cities in the form of confectionery heavily impregnated with whiskey and brandy exposed for indiscriminate sale to any who chose to buy. This class of edibles is consumed almost entirely by children, and the effect, immediate and remote, likely to follow can readily be imagined. But injury to health, violation of the law and the possibility of creating an appetite which may ultimately lead to de-

struction, are alike disregarded by this despicable species of commercial vampire.

Tennessee is to be congratulated upon her able and fearless Pure Food Inspector. Work of the splendid kind above referred to should give peculiar satisfaction to the medical profession upon whose initiative and by whose labors largely the Pure Food Law was placed upon the statute books and the fitness of Inspector Brown for the important office he holds brought to the attention of the appointing power.

THE SOUTHERN SOCIOLOGICAL CONGRESS.

There was held in Nashville during the second week of May probably the most important, certainly the most significant, convention which has ever assembled in the South. Pursuant to the call of Governor Hooper delegates from every Southern State were present, as well as many distinguished guests from other sections of the country. The occasion was the first meeting of the Southern Sociological Congress.

In the main social problems are essentially similar in every state and community. But it was felt, and not without reason, that the several important questions growing out of the South's peculiar population might best be studied at first hands by those most familiar with them. Again, while progressing by leaps and bounds along the lines of commercial development and financial prosperity, it had long been apparent that the South was not giving due consideration to the great problem of promoting and safeguarding the welfare of her citizenship. For many years the concentration of effort necessary to recoup depleted material resources had resulted in apparent neglect of the finer interests and duties involved in the questions of social relationship.

That genuine interest in the subject was not lacking is shown by the hearty and enthusiastic response to the call for the Congress. Individual workers previously unknown to each other and entirely ignorant of conditions outside their own immediate observation, were quick to recognize the

benefits to be derived from getting together, exchanging views, and receiving needed counsel for their future efforts.

The Congress was projected along broad lines. Eugenics, child labor, rural sanitation, vital statistics, and similar diversified subjects were covered by the program, and always there were those with a message worthy of being heard on every topic.

It is to be regretted that a larger number of physicians were not present. Many subjects of a strictly medical nature were to have been and should have been presented. But for some reason physicians are slow to avail themselves of opportunities such as this. A few distinguished visiting physicians were in attendance, but the local profession was chiefly conspicuous for its absence. It is to be hoped that future meetings of the Congress will show an improvement in this respect. No better opportunity could be desired to reach the public with instructions which the physician is peculiarly fitted to impart and which the public is peculiarly eager to receive.

"A solid South for a better Nation," was the slogan adopted by the Congress. Wisely directed, it cannot be doubted that with this high purpose constantly in view, great and lasting good will be accomplished.

RAILROADS VS. MEDICAL MEETINGS.

The present attitude of railroads towards medical meetings in particular, and towards religious and business gatherings in general, is inexplicable on any sound or sensible basis. Only within recent years the demand was that at least fifty should be in attendance at any meeting to insure a return rate of one-third fare, on presentation of a certificate stating that full fare had been paid for the "going ticket." At this treatment no one was disposed to complain. A little later a jump was made to "one hundred in attendance;" and still more recently the tremendous leap was made to "two hundred in actual attendance and not one of the two hundred on free transportation." This last demand is working the ruin of district and state medical associations, as

many members whose means are limited will not attend without assurance of reduced rates of travel.

In the summer tourists rates given the A. M. A. this year, the railroads have not given the slightest recognition to this great body of professional men. Any single individual, whatever the purpose of his going, can get the same rate at any time during the summer. The only consolation the roads offer us is that our rate is better than the rate given either of the two great political conventions soon to assemble; and the only comfort they offer is the declaration that doctors who attend these meetings are rich and ought to be reckless enough to pay and not complain. As to the "consolation," it may come as a result of each convention, or some succeeding convention, declaring in favor of "government ownership of railroads." The "comfort" is false, for the doctors who attend these medical meetings are, with a few exceptions, not rich. Those who are kept at home because of unfair rates are the very ones who most need the contact, and the inspiration that comes from it, available only at these meetings.

The best that can be said of the present attitude of the railroads is that "it is penny wise and pound foolish."

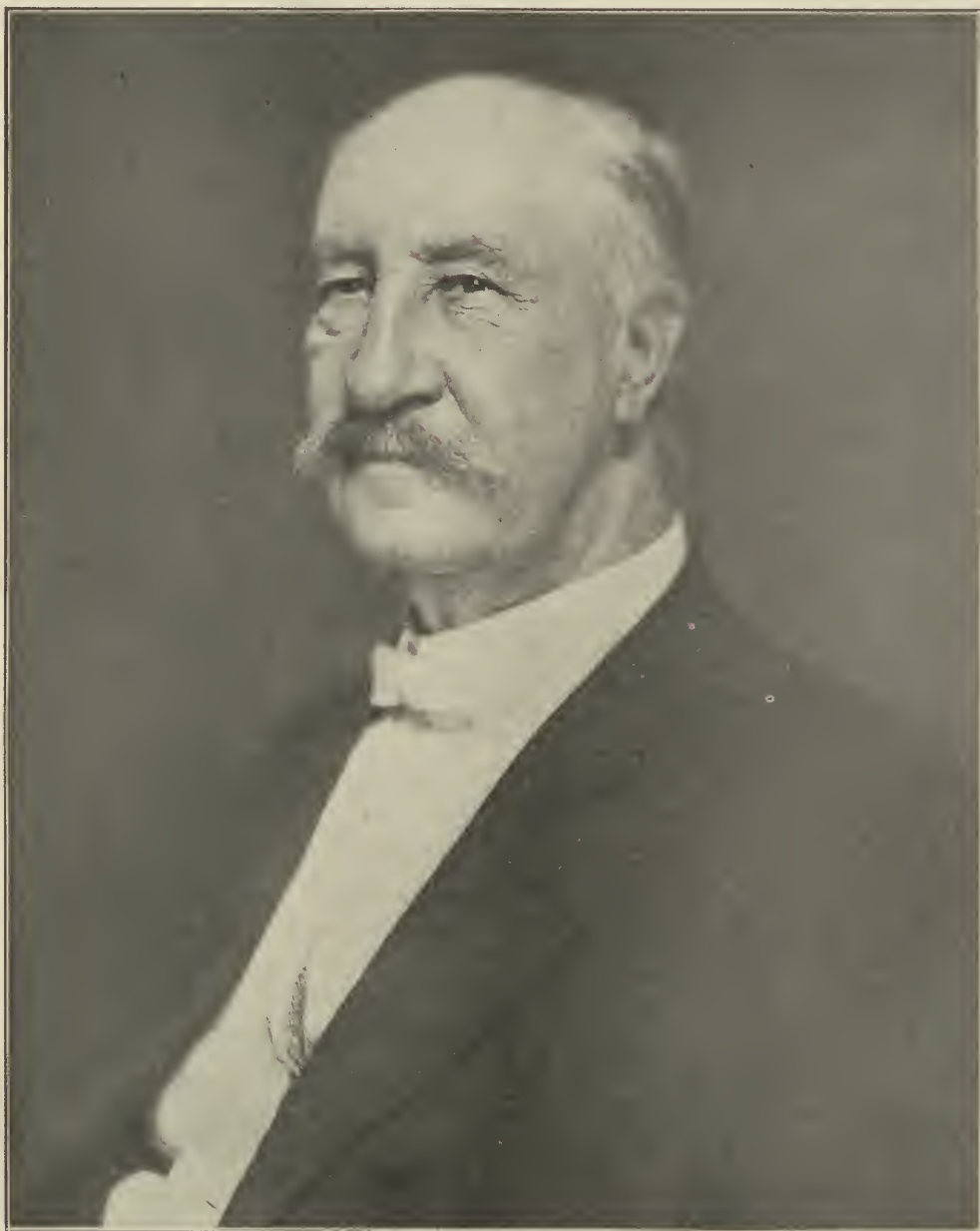
Since any reduction in rates is supposed to be initiated by the roads in whose territory an association meets, it is to be hoped that hereafter the A. M. A. will put the place of meeting in the hands of a "Committee on Place," whose first work shall be the securing of reasonable round-trip railroad rates.—G. C. S.

NOTES FROM BOARD OF HEALTH.

The Davidson County Tuberculosis Hospital will be opened for reception of patients on May 21. Only residents of Davidson County for one year preceding date of application will be admitted. The building will accommodate fifty patients, and is strictly modern in construction with separate wings provided for white and colored. Tents will be provided for future expansion, and by

the tent and cottage method the institution hopes to care for all applicants. It is supported by a special tax levied for this purpose which affords approximately \$50,000 annually and is under the control of the Davidson County Tuberculosis Hospital Commission composed of Mayor H. E. Howse, Chairman; Judge W. M. Pollard, Dr. B. G. Tucker, County Health Officer; Squire Jno. F. Reed and Dr. W. E. Hibbett, City Health Officer. Dr. Hibbett is the executive officer of the hospital and Dr. M. E. Link is Superintendent. The hospital is located four miles north of Nashville on a tract of land of one hundred and fifty acres, beautifully situated and affording sufficient room for immediate or future expansion. Eggs, milk and vegetables will be produced on the farm, where a sanitary dairy will be installed. The institution receives its water and electric lights from the city free of cost. Cooperating with the tuberculosis bureau of the city, this institution will place Nashville in the lead of Southern cities in caring for this class of unfortunates.

The recent cerebro-spinal fever scare is about over. Very few new ones have been reported in the past few weeks. There were during the preceding two weeks about sixty-five cases reported to the City Board of Health, with a mortality of approximately thirty per cent. This mortality is the joint mortality of private and hospital cases, the latter method showing something less than twenty-five per cent. The prompt and radical measures adopted by the Board may have been unnecessary, but succeeded in allaying popular fear and certainly gave the unfortunate classes an opportunity to receive modern treatment for this dreadful disease. The measures adopted by the Board of Health were strict isolation, and where practical removal to Isolation Hospital. The Board also were very liberal in furnishing serum to all indigent cases whether under private or hospital care.



JAMES B. MURFREE, M. D.

James Brickell Murfree, M. D.

JAMES BRICKELL MURFREE, M.D., one of the oldest and most beloved physicians of Middle Tennessee, died at his home in Murfreesboro on April 24th, age 77 years. He was born and spent his entire life, with the exception of the few years during which he followed the fortunes of the Lost Cause, in the community where death overtook him.

Dr. Murfree received his medical degree from Jefferson Medical College in 1859. Returning at once to Murfreesboro, he opened an office and devoted his lifework to the people among whom he was reared. It has been said of him that no man in that section ever had a wider circle of acquaintances and that the number of his acquaintances was the only limitation which could be placed upon the number of his personal friends.

Probably no physician in the State ever had a larger or more arduous practice. Always ready to respond to the call of those who needed his services, he made financial profit a secondary consideration. He did not seek to accumulate riches, but he died rich in the respect and affection of the multitude to whom his life of self-sacrificing service had been devoted.

In his profession Dr. Murfree held a high place. His skill and ability both as physician and surgeon were widely recognized. In medical gatherings his opinion on any problem under discussion was always listened to with profound respect. He always had the courage of his convictions and stood ready to uphold his own conclusions in the face of any opposition.

Dr. Murfree had been honored by his profession with many official positions, among which may be mentioned the Presidency of the State Medical Society and that of the Tri-State Medical Association of Alabama, Georgia and Tennessee. He was also a member of the Southern Surgical and Gynecological Society and of the American Medical Association.

A long and useful life is ended. He will be missed most by those who knew him best.

DEATHS

Dr. R. A. Sloan, aged 81, died at his home, 310 Houston street, Chattanooga, Tennessee, May 28:

NEWS NOTES AND COMMENT

Mr. J. W. Bothell, of the United States Department of Agriculture, Washington, visited Nashville during the week of May 27th, with the purpose of investigating the condition of the milk supply and dairies of Nashville and vicinity. A number of public meetings were held, and great good is expected to result from the visit of this expert. It is especially worthy of comment that the dairymen manifested as deep an interest in the matter of improving the supply as any others concerned.

The Upper Cumberland Medical Society met at Sparta, Tennessee, on May 27th and 28. A large delegation from Nashville were in attendance, as well as from the surrounding territory. The physicians of Sparta vied with each other in extending the hospitality of their homes to the visitors, and made every one enjoy themselves to the fullest.

Dr. Olin West, of Nashville, delivered a public address, the subject of which was "Some Needed Legislation in Tennessee." It is needless to say the subject was capably handled and ideas advanced, which if carried out, will bear valuable fruit for our state.

Mrs. McPheeters Glasgow, of Nashville, presented the doctor with a fine baby girl on May 22nd.

The Hamilton County Medical Society adopted the following recommendation relating to the practice of its members at its regular session, March 15th, 1912:

1st.—To furnish medicine, medical or surgical aid to any club or clubs, society or societies, order or orders, lodge or lodges, their members or families for less than the

fee-bill prices is unethical and should be prohibited.

2nd.—Work for casualty company or companies, liability company or companies, factory or factories, manufacturing plant or plants, contractor or contractors, corporation or corporations, or any individual employing labor, should be done on the same basis as other practice regulated by our fee-bill. Especially do we recommend that no member of this society enter into any agreement with any casualty company or companies, or liability company or companies to render services as heretofore according to their first-aid fee-bill, but must do such work based upon our own fee-bill.

3rd.—That no block contract or contracts be taken by any member of this society.

4th.—That this society abide by the rulings of the A. M. A regarding work done for railroads, mines and corporations located in remote territory (except street railways, which are exempt from the above ruling).

5th.—That the above recommendations for work done by members of this society apply also to those members of the profession who are now or who shall later be on the consultation list of this society.

The Commencement Exercises of the Medical Department of Vanderbilt University were held in the College Hall on the West Campus, Tuesday, May 22nd.

Sixty-six were graduated, and the degree was conferred upon them by Chancellor J. H. Kirkland.

The charge to the graduates was delivered by Dr. M. C. McGannon, and the Commencement Address by Dr. L. E. McNair.

Dr. Andy Eggstein, of Tennessee, received the Founder's Medal, making an average grade of 98.5 for his full four years, which is the highest general average ever made in the Medical Department.

The following members of the graduating class received hospital appointments:

W. B. Wood, South Carolina; H. C. Tucker, Tennessee; H. F. Friedman, Florida; C. W. Metz, Tennessee; J. B. Neil, Tennessee, City Hospital, Nashville, Tenn.

Andrew Lewis Glaze, Tennessee, Vanderbilt Hospital; Herman Richard Townsend, Mississippi, Vanderbilt Hospital; Thomas Knight Lewis, Alabama, St. Vincent Hospital, Birmingham, Ala.; Charles Harry Bryan, Tennessee, Northern Pacific Hospital, Missoula, Mont.; Thomas Cleveland Bell, Kentucky, Good Samaritan Hospital, Lexington, Ky.; Benjamin Victor Howard, Tennessee, National Military Home Hospital, Johnson City, Tenn.; Charles Scott Stevenson, Tennessee, St. Margaret's Hospital, Kansas City, Mo.; Robert Lee Crawford, Florida, St. Luke's Hospital, Jacksonville, Fla.; Lysander Palmer, Tennessee, Willard Parker Hospital, New York City; Isidor Daniel Haskill, New York, Baroness Erlanger Hospital, Chattanooga; James Bart Williams, Kentucky, St. Thomas Hospital, Nashville; Thomas Raymond Riggs, Texas, St. John's Riverside Hospital, New York City; Moody Warren Arnold, Alabama, Willard Parker Hospital, New York City; John Wesley Stephenson, Kentucky, St. Thomas Hospital, Nashville; Mason Elias Henry, Tennessee, Cotton Belt Railway Hospital, Texarkana, Texas; William Jackson Hux, Missouri, Willard Parker Hospital, New York City; Marion Childress Wilson, Tennessee, Willard Parker Hospital, New York City; Gaggiola Pedenzi Gaggioli, France, Endowood Sanitarium, Towson, Md.

The Memphis Hospital Medical College closed its thirty-second annual course on the 16th of May. As usual with this excellent institution it had a very successful term, and the class graduated numbered one hundred and three, students coming from many states, as far Northwest as Iowa, South from Florida and West from Colorado.

On the night of the 14th the faculty gave a dance to the senior class in the college building, which was a very enjoyable affair, the large and commodious lobby of the building, with its tile flooring and decorations, together with the numerous large class pictures of classes for many years gone, presenting a very pleasing picture.

On the night of the 15th a banquet was given at the Gayoso Hotel to the class, and by invitation to the alumni of the college who were near enough to attend. There were more than 200 students and alumni of this college present on the occasion, which proved to be pleasant in every way, with enthusiastic toasts, responses and friendly commingling.

This college is perhaps one of the largest and best equipped in the South and offers a most excellent course of instruction, is well, and deservedly so, patronized with a wide circle of friends and an alumnus of 3,000 throughout the South and Southwest.

The Middle Tennessee Medical Association held one of its most interesting sessions at Pulaski on May 16 and 17.

The attendance was excellent and the interest taken in the splendid papers presented was most encouraging.

The following officers were elected:

President—Dr. C. W. Goodrich, of Fayetteville.

Vice-President—Dr. R. L. Jones, of Nashville.

Secretary-Treasurer—Dr. R. W. Billington, of Nashville.

Next annual meeting will be held in Shelbyville.

The East Tennessee Medical Association met at Cleveland, Tennessee, May 21-22. A large attendance marked the opening and were highly pleased with the program which is reported as being of a very meritorious character. The association was given auto rides to points of interest, and those present were highly elated over the social features planned for them by the profession of this thriving little city.

The West Tennessee Medical Association, now having a membership of more than three hundred, met in Memphis on May 16 and 17, with nearly one hundred doctors attending. Dr. J. A. Crisler, of Memphis, President, and Dr. J. A. McSwain, of Paris, Secretary, had arranged a most excellent

program, both social and scientific, which was enjoyed by all attending.

The papers were all of extra merit and the discussions were not allowed to drag.

It is unfortunate that both the West and Middle Tennessee associations should meet at the same time, as no doubt the attendance would be very materially increased if members could arrange to attend both.

Officers elected were:

President—T. J. Herron, M.D., Jackson.

Vice-President—H. W. Sale, M.D., Covington.

Vice-President—B. N. Dunavant, M.D., Memphis.

Secretary-Treasurer—I. A. McSwain, M.D., Paris.

The Upper Cumberland Medical Society held its eighteenth annual meeting at Sparta, Tenn., May 28-29. The attendance was good and an interesting program was carried out. The newly elected officers are:

President—W. C. Officer, M.D., Monterey.

Vice-President—P. K. Lewis, M.D., Doyle.

Vice-President—W. J. Breeding, M. D., Ravenscroft.

Secretary—Z. L. Shipley, M.D., Cookeville.

Treasurer—R. E. Lee Smith, M.D. Doyle.

MARRIED.

The marriage of Dr. Bartholomew Newton White to Miss Florence Valentine Howse took place at the Methodist Episcopal Church, of Murfreesboro, on June 12th, 1912.

SOCIETY PROCEEDINGS

The Johnson City and Washington County Medical Society met in its regular monthly meeting. Minutes of the previous meeting were read and approved. Those present were: Drs. Randall, Kennedy, Smith, West, Broyles, Matthews, H. Miller, Sells and Cox; visiting, Drs. Sherell and McKay, col. Under clinical cases, Drs. Miller and Cox of-

fered in person two cases of enlarged spleen. The first one, by Dr. Miller, being in a man 41 years of age, with a history of syphilis some fifteen years ago. In this case the abdomen was relaxed with probably a small amount of effusion, spleen palpable and markedly enlarged, anaemia very pronounced, and associated with this condition was an aggravated diarrhoea. Specific treatment and arsenic reactment, some improvement under treatment has been the result. The case offered by Dr. Cox was a very pronounced enlargement of the spleen, extending below the umbilicus and to the right of same, enormously enlarged, history of probably malarial infection, family history good, no venereal taint. There was an absence at this time of any diarrhoea or stomach involvement, which was a prominent feature at the beginning of this trouble, some three months ago. This case also showed a marked degree of anemia, but has much improved upon the use of Bland's mass and arsenious acid and small amounts of quinine. Stomach and general condition improved, but area of spleen decreased but little. Blood counts nor further tests have been used in either case. The diagnosis in each case was thought probably to be "spleno-medullary leukemia." The first case probably due to specific disease. The second case was thought to be possibly due to chronic malarial infection. The prognosis was unfavorable in both. Dr. Broyles offered a clinic or report of a case which appeared to be cancer involving the soft palate and mouth, a very marked invasion of these tissues, but preparatory to operation put patient upon kalium iodide, and when he returned in a week or ten days was very materially improved and continued to improve. The party disclaimed a specific infection, but the treatment proved his former infection. The Secretary read a letter from Dr. Sheddan expressing his regret at not being able to be present and read his paper, for the reason he suffered severely in a fire, losing all the effects of himself and wife—the Marion Flat fire. The Society instructed the Secretary to write Dr. Sheddan a letter of sympathy in his loss and regret that he

could not be present. A motion was offered and sustained by unanimous consent of the Society that in the future the essayists for each meeting of the Society should be arranged alphabetically, and both should prepare papers so that in the absence of the essayist the alternate should read, and that the essayist absent should read at the next meeting and thereby take the alternate's place upon that occasion, Dr. Broyles being the essayist for the June meeting and Dr. Cox the alternate. The Society went on record on the subject of attendance of the membership, and that in the future members absenting themselves from society meetings for six months shall be dropped from the roll of membership, and the Secretary was requested to notify all members of this action in writing. The Board of Censors were instructed by a unanimous vote to investigate the membership of this Society and report upon all irregularities of the members and recommend action to be taken in each special case or person. The Secretary was paid for postage and stationery for the past year, which was \$2, for which he receipted the Society. Urgent request for members to attend the East Tennessee Medical Society at Cleveland, May 22 and 23, was made by Dr. Broyles and others. Not only was the revision of the membership by the censors deemed an urgent matter by the Society, but it was deemed wise to go farther and look into the R of druggists and report the same to the Society. The Society then adjourned to meet in its regular meeting the first Thursday in June.

J. W. Cox,
Secretary and Treasurer.

BOOK REVIEWS.

A TREATISE ON TUMORS. For the use of Physicians and Surgeons. By Arthur E. Hertzler, M.D., of Kansas City, Mo., Assistant Professor of Surgery in the University of Kansas. Octavo, 728 pages, with 538 illustrations and 8 plates. Cloth, \$7.00, net; half Persian morocco, gilt top, de luxe, \$9.00, net. Lea & Febiger, Publishers, Philadelphia and New York, 1912.

This splendid work is projected along practical lines, being designed primarily to serve as an aid in the clinical recognition of tumors. Sufficiently comprehensive in its scope to furnish all needful information bearing upon the purely scientific aspects of tumor formation, this feature is largely subordi-

nated to what the author rightfully considers the more important needs of the practical worker.

The treatise is divided into three parts.

Part I, entitled "The General Biology of Tumors," deals in a brief but exceedingly clear way with definition, classification, structure, growth, etiology, metastasis, and similar general problems.

Part II is devoted to "The Special Pathology of Tumors," in which the nature and salient characteristics of the several varieties are discussed at length in a style at once simple and lucid.

Part III deals with "The Regional Consideration of Tumors." This is the portion of the volume which will prove of greatest value to the clinician, dealing as it does in a concise and practical manner with the questions of diagnosis, prognosis and treatment.

The literary quality of the work is exceptional. Grace and elegance of diction and a chaste, pleasing style combine to make it most attractive even to the casual reader.

While the work does not undertake to supply all that is known about either the theory or the management of tumors, it is certainly a valuable addition to the literature of the subject.

A. B. C.

ONE HUNDRED SURGICAL PROBLEMS. By James G. Mumford, M.D., Visiting Surgeon to the Massachusetts General Hospital; Instructor in Surgery, Harvard Medical School; Fellow of the American Surgical Association, etc. Octavo of 354 pages. W. M. Leonard, Publisher, Boston, Mass. Price, \$3.00.

Galen and Paré as well as many others formerly taught by the "case illustration" method—that it is a valuable method no one can deny, but in the writer's opinion will never displace the methods of teaching now in vogue.

The books along this line written by Cabot, Morse, Taylor and others are intensely interesting and valuable. Dr. Mumford's "One Hundred Surgical Problems" being no exception. The only criticism offered is that the reader is not allowed to speculate on the outcome, as in the case of Dr. Cabot's book, and in our opinion, in this loses its most valuable purpose. The cases are well selected and presented in a clear and forceful style quite characteristic of Dr. Mumford.

P. B.

BOOKS RECEIVED.

REPORT FROM PATHOLOGICAL DEPARTMENT AND THE DEPARTMENT OF CLINICAL PSYCHIATRY. Central Indiana Hospital for the Insane. 1909-1910 and 1910-1911. Volume IV. G. F. Edenharter, M.D., Supt., Indianapolis, Ind.

THE PRACTICAL MEDICINE SERIES. VOLUME I, GENERAL MEDICINE. Comprising ten volumes on the Year's Progress in Medicine and Surgery. Under the general editorial charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School; Charles L. Mix, A.M., M.D., Professor of Physical Diagnosis in the Northwestern University Medical School. Edited by Frank Billings, M.S., M.D., Head of the Medical Department and Dean of the Faculty of Rush Medical College, Chicago; and J. H. Saulsbury, A.M., M.D., Professor of Medicine, Chicago Clinical School. Series 1912. The Year Book Publishers, 180 Dearborn Avenue, Chicago.

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M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School; Charles L. Mix, A.M., M.D., Professor of Physical Diagnosis in the Northwestern University Medical School. Edited by John B. Murphy, A.M., M.D., LL.D., Professor of Surgery in the Northwestern University, Attending Surgeon and Chief of Staff of Mercy Hospital, Wesley Hospital, St. Joseph's Hospital, and Columbus Hospital, Consulting Surgeon to Cook County Hospital and Alexian Brothers Hospital, Chicago, Illinois. Series 1912. The Year Book Publishers, 180 Dearborn Avenue, Chicago.

PSYCHOTHERAPY. Including the History of the Use of Mental Influence, Directly and Indirectly, in healing and the Principles for the Application of Energies Derived from the mind to the Treatment of Disease. By James J. Walsh, M. D., Ph. D.,

Dean and Professor of Functional Nervous Diseases and of the History of Medicine at Fordham University School of Medicine, and of Physiological Psychology at the Cathedral College, New York; Fellow of New York Academy of Medicine; Member A. M. A., A. A. A. S., New York State Medical Society, German Society for the History of Medicine and the Physical Sciences, New Orleans Parish Medical Society, St. Louis Medical History Clubs, etc. D. Appleton and Company, New York and London.

THE CARE OF THE INSANE AND HOSPITAL MANAGEMENT. By Charles Whitney Page, M.D. 154 pages; price prepaid, \$1. W. M. Leonard, Publisher, Boston. **ANNUAL REPORT OF THE SURGEON-GENERAL OF THE PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE OF THE UNITED STATES FOR FISCAL YEAR 1911,** Washington, D. C.

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DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION OF TENNESSEE

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Number 3

MODERN ADVANCES IN OPERATIONS FOR CATARACT AND GLAUCOMA.*

BY L. WEBSTER FOX, M.D., LL.D.,
of Philadelphia, Pa.

Mr. President and Gentlemen: I deeply appreciate the honor you have conferred upon me in selecting me to address you on this occasion. For this evidence of your esteem I thank you. When accepting the invitation of your committee to deliver an address before your Society it occurred to me that it would be more agreeable to the members if I selected a subject dealing with the operative side of ophthalmology.

In the earlier part of my professional career it was my good fortune to have had the golden opportunity of not only seeing many of the most celebrated operators of their day perform operations on the eye, but also as a student to receive from them careful instruction in ophthalmic surgery. In the beginning of my student days ophthalmic surgery was evolving into a distinct department of surgery as a separate art. At the Jefferson Medical College there was at that time Dr. R. J. Levis, who, in addition to being a most dexterous general surgeon, applied his skill with great success to ophthalmic operations. His teaching led many young students to discard those of Pancoast and Gross, who were his colleagues, and to follow this great surgeon in the special field of Ophthalmic Surgery. A new de-

partment in surgery was then born—for Levis proved, and rightly so, that ophthalmic surgery had a place of its own, for during the latter days of his professional life he did nothing but eye work.

As a student in Vienna I followed the teachings of Arlt, Stelwag, Jaeger, and Mauthner. Ophthalmology in that city was divorced absolutely from general surgery, and the masters referred to had a field which was entirely their own. When I arrived in Paris I found the same method of instruction pursued as in Vienna. In London, at Moorfields, a mixed staff was on duty, but the general surgeons, able and lovable men, were, nevertheless, outclassed by the then purely ophthalmic surgeons. Whilst ophthalmic surgery has been for a long time in the hands of specialists, we must not forget, as Landolt has said, that "we are still, and more so than we think, under the influence of general surgery, and that often with little advantage." Asepsis is just as valuable in ophthalmic surgery as in general surgery. It may not be generally known, but the elder Pancoast was one of the first surgeons in America to use bichloride of mercury in his operative work. He found that cases treated with it always made a more rapid recovery than when the antiseptic was not applied; but, like many other discoveries in science, while Pancoast was working on the reef, Lister and Pasteur independently worked out the veins of pure gold and by their work completed antiseptic surgery.

What a joy to the ophthalmic surgeon of today is that of asepsis. Thirty years ago, when acting as House Surgeon to Moorfields Eye Hos-

*Special address read before the Tennessee State Medical Association by invitation at the seventy-ninth annual meeting at Chattanooga, Tennessee, April 10, 1912.

pital in London, I followed with bated breath the work of that skillful staff, and only breathed easily after we found that the cataract cases had passed the first three days without infection and were on a fair way to recovery. How often have I witnessed a perfect operation end in suppuration. Now all is changed. Today the ophthalmic surgeon does not approach a cataract case with fear and trembling. He does not now modestly say, as was said of a great surgeon of the pre-aseptic age: "I operated upon you, but God healed you."

Until about the middle of the last century the classical Daviel's simple extraction was the generally recognized method for the removal of a hard cataract. When successful the result was ideal, but too frequently—especially prior to the introduction of antiseptic surgery—there were sad instances of failure caused by suppuration of the wound, protrusion of the iris, escape of vitreous, irido-cyclitis, and other misfortunes.

By degrees modifications of the operation were introduced, the height and location of the incision were varied, iridectomy was combined with it, sometimes being performed before or at the time of extraction. Delicate metallic scoops and slippers and hooks were devised and employed to make traction upon the lens as in the Waldau-Schufft, Critchett and Bowman operations, and in some instances the lens was removed entirely in its capsule by Pagenstecher and his followers.

Many of the dangers associated with the operation were lessened by the adoption of more rigorous aseptic and antiseptic precautions, and the introduction of cocaine as a local anæsthetic eliminated all fear of vomiting at the time of the operation, thus lessening the chance for hemorrhage and extrusion of the iris and vitreous. The combined operation as described by von Graefe in the sixties, has, with slight modifications, held its ground for half a century, and better and better results followed as the years passed on and greater attention was given to the details of technique.

Of recent years the removal of the lens in its capsule as practiced by Major Smith in India has attracted considerable attention in Europe and America. His reports of the thousands of cases he has operated upon in India have proved so fascinating that several men of operative ability have gone from this country to his ophthalmic clinic in India for the purpose of studying and

practicing the technique of the operation immediately under Major Smith's personal direction.

The writer of this paper fully appreciates the advantages which accrue from the removal of the lens in its capsule either with or without iridectomy, but he has neither found the operation of universal application nor without the danger of considerable loss of vitreous, which frequently accompanied it. Indeed, the longer we practice ophthalmic surgery, the more we are led to adapt our methods of operating for cataract to the conditions of each individual case.

eyeballs vary considerably in size; some have deeper or shallower anterior chambers than others. In some the iris is fixed; in others it is freely movable. So that every case must be studied and treated upon its own merits, and the operator must be prepared to modify the details as he proceeds with his operation.

All the modern methods of operating demand our consideration, but from time to time as typical cases of successful simple extraction, performed by ourselves or others, come before us, we are delighted with the natural aspect of the eye and the clean, round, velvety black pupil. Experience unfortunately has taught us that simple extraction as formerly practiced was fraught with the danger of prolapse of the iris, which was not entirely prevented by a conjunctival flap as practiced by Snellen and others.

It would appear, however, that by adopting the recently introduced sliding conjunctival flap, as practiced by Van Lint, we can secure accurate co-aptation of the edges of the wound and prolapse of the iris is prevented. Let me briefly describe this method, which has proved to be extremely valuable.

The conjunctiva is incised around one third of the upper margin of the cornea, and is then undermined and separated for eight or nine millimetres upwards. Two black silk threads are passed through the loosened conjunctiva and brought out in the attached conjunctiva near the corneo-scleral margin below on each side of the cornea. The corneal incision is made in the regular way, sufficiently large to allow the cataract to be delivered without bruising the lips of the wound. After rupturing the lens capsule with the bent cystitome, the ordinary method is applied to deliver the lens and any cortical matter which may remain behind. The iris is then gently stroked into place by a very flat spatula or

Daviel spoon, which insures a round, black pupil. Up to this stage of the operation we have practically followed the ordinary simple method. The silk threads are now tied, first on one side of the cornea, then by gently raising the other side of the flap of the conjunctiva, by means of the second thread, it is brought downwards and over the line of incision and tied. This apron covers about one fourth of the cornea. After the lid speculum has been removed, a curved spatula is passed underneath the sliding flap, and the lips of the corneal flap are gently stroked into direct apposition. This aids in healing by first intention, and upon closely examining the pupil we find it in place and perfectly round.

This method appeals to me as an advance in the surgical technique, and one that should be given a thorough trial by all ophthalmic surgeons.

In trying out this method I made no exceptions, but suppressed my usual caution and operated upon a few cases which ordinarily would have been put to one side. As Dr. Van Lint remarks, "the classical operation for cataract, such as is described in all treatises on ophthalmology, generally gives excellent results." Unhappily, the results are not always equally perfect. Occurrences during the operation and post-operative complications, which jeopardize the complete result, are numerous. Among the extraordinary cases that I successfully operated upon were some which were accompanied by high blood pressure and slight mucocoele. These and even others complicated with chronic lid troubles were successfully treated. I have felt for a long time that the Snellen flap operation did not answer in cases where there were such complications as those briefly described above. In our hospital work we are so often confronted by patients with high blood pressure, foul nostrils, decayed teeth, and semi-diseased lachrymal sacs, that to operate on such is simply to court disaster. The technique of the operation is simplicity itself but does require more time for its completion than the ordinary methods. This sliding flap method is of great advantage in very old people where the wound heals slowly. I have had such cases where at the end of ten days or more the anterior chamber had not reformed, showing leakage somewhere along the line of incision, but where this bridge of conjunctiva is employed, it

produces an artificial pressure which promotes very rapid healing.

GLAUCOMA.

Special attention has of late been devoted to the operative treatment of glaucoma. When von Graefe, in 1856, introduced his operation of iridectomy for the relief of glaucoma, it was at once hailed by the profession as one of the greatest of blessings to the human race, but experience has clearly shown that, whilst the beneficent results of a well-performed iridectomy in acute glaucoma are truly magical, its benefits in chronic glaucoma are not only problematical, but possibly in some cases harmful. In the course of time it was demonstrated that whatever improvement was obtained was associated with a permanent filtration through the scar in the site of the incision, and consequently operators in recent years have sought for the best means of producing filtering cicatrices. This practice is based upon the retention theory of glaucoma—the fluids within the eye which should be removed principally through the canal of Schlemm being from some cause prevented from so doing. A cystoid or filtering cicatrix is therefore capable of furnishing an exit for the excess of lymph which would otherwise be pent up and produce glaucomatous tension of the eyeball.

As glaucoma occurs most frequently in advanced age, it is then we most naturally look for arterio-sclerosis and high-blood pressure. Several pertinent questions must be asked in a consideration of the etiology of this affection; first, is it an essential primary disease, or are we considering but an accident occurring in the course of a general arterial degeneration? Moreover, may it not be possible for a systemic hypertension to be responsible for the local transudation from the vessels of the ciliary body producing the characteristic increase of intra-ocular tension designated glaucoma? Second, should we not consider the retention of fluid due to the sclerosis of the pectinate ligament seen in advanced years of life normally or in arterio-sclerosis at an earlier age, as merely a part of a general process? The above seems most surely to explain those cases occurring beyond fifty years, but obviously not the prenatal or congenital type.

It is a common statement of most authors that women are sufferers from this affection with greater frequency than the male sex, more par-

ticularly the congestive variety of the disease. In our series of fifty cases studied the proportion was 31 females to 19 males. Although women are generally less prone to cardio-vascular-renal disease than men, the greater instability of the blood pressure in this sex during the menopause and as the result of neuroses, predisposes them to transient attacks of quite decided hypertension.

Pathology.—Generally speaking, most of our actively acute cases were those in which the eye had previously shown retinal or other intra-ocular hemorrhage, rarely hemorrhagic glaucoma. It is considered by many that hemorrhagic glaucoma is caused by these intra-ocular hemorrhages, although pathological studies do not always prove this to be true. In typical cases there being no hemorrhages into the vitreous, they being confined to the retina. The retinal hemorrhage and glaucoma being due to the same cause, which in most cases has been shown to be an obstruction of the central vein due to endophlebitis.

The relationship between arterial hypertension and arterio-sclerosis to the eye, with particular reference to glaucoma. The majority of recorded cases of acute glaucoma occur between the ages of 50 and 70 years; and primarily the exciting cause has seemed to have been a disturbance of the balance between the general blood pressure and that of the eye.

In attempting to explain the relation existing between high arterial blood pressure *per se* and arterio-sclerosis, it has been well proven by Elliot and others that there is no absolute correspondence between the extent of the atheroma, and the clinical findings. It is moreover true, as the autopsy reveals, that the ordinary clinical type of arterio-sclerosis is unaccompanied by high blood pressure in a large percentage of cases, and furthermore, when hypertension does occur, it points to an excessive sclerosis of the renal or splanchnic vessels.

The necessity for differentiating between arterio-sclerosis and arterial hypertension is most important from the standpoint of prognosis, and the results to be expected from therapy. In glaucoma the arterio-sclerosis is usually a sequel of long continued hypertension with the usual pathologic alterations of multitudinous vessel walls as a result. High arterial tension, considered as an entity, is a condition dependent upon perversion of normal metabolic activities resulting in spasm of the vessel walls; which, how-

ever, may be prevented from developing into actual arterial degeneration by the regulation of habits, diet and appropriate medication.

It is therefore paramount for the practitioner to recognize chronic arterial hypertension early and properly appreciate its importance with reference to the ocular manifestations, hemorrhage, and glaucoma. The mere administration of vasodilator drugs to relieve the more pressing symptoms does not afford permanent benefit in retarding the sclerosing processes at work in the vessel walls. A thoroughly detailed eradication of tonic processes and physical and mental overwork must be insisted upon.

In our recently studied series, eleven, or 22 per cent, were clinically arterio-sclerosis, yet the patients' blood pressure was within normal limits for the individual's age and sex. Like results have been the experience of Potain, Groedel, Lreschfeld and others. Apparently hardening of the superficial arteries upon which the clinical diagnosis of arterio-sclerosis is made, does not constitute sufficient cause for the development of arterial hypertension. The sphygmomanometer is absolutely essential in the study of these cases, as it is impossible for the finger, however skilled, to determine to what extent the hardness of an artery is due to high pressure of the blood within the vessel, or how much is due to thickening of its wall. It is evident that a deeper underlying cause must be sought as an explanation for the variability of the blood pressure in arterio-sclerosis, and it is from the kidneys and vessels of the splanchnic area that the answer must come. The frequency with which excessive renal involvement is seen in some cases of arterio-sclerosis, constituting cardiovascular-renal disease of certain writers offers the most satisfactory explanation; as is well known, no other condition is so constantly and uniformly characterized by hypertension as chronic interstitial nephritis. Of the nine acute cases studied, all revealed an arterial tension of 200 mm. or over, the highest being 296 mm. They uniformly revealed the lesions of chronic interstitial nephritis and advanced arterio-sclerosis, one only showing mitral insufficiency with pronounced cardiac hypertrophy. All showed rapid and decided improvement, both in the ocular tension and general condition following either venesection or free diaphoresis by the electric light cabinet.

In 1908, before the Colorado State Medical

Society, I pointed out the relationship existing between high arterial tension and retinal hemorrhages, and the value of prompt venesection in lowering hypertension and promoting absorption of the clot. After treating a large number of cases from both private and clinic practice during the past four years, I have learned the necessity of selecting only certain patients for this method. A certain percentage, chiefly the senile and those with myocardial changes do better with electric diaphoresis, sodium nitrate, iodide and purin, free diet for five or six days of rice, bread, butter, oatmeal and weak tea with no sugar or animal protein whatsoever. Later eggs and green vegetables may be added. This is practically the regime employed with our glaucomas.

Of the remaining forty-one cases, some might be termed subacute, the remainder chronic, they first coming under observation from one month to a year following the attack. A detailed investigation of the heart, arteries, and kidneys of this group revealed recent or well established alterations of these structures. Excepting two, all could be said at the time examined while at rest in the hospital to have been just upon the border line, or somewhat above their approximate normal arterial tension. The kidneys in 80 per cent depicted a failure of renal compensation far in excess of what should be expected at their years. It is fair to presume, if these patients could have been examined prior to or a few hours after the attack in those giving a history of an acute onset, we are inclined to believe from the above evidence that they would have shown hypertension. Which, therefore, lends color to the original premise that glaucoma is probably but part of a general process and high blood pressure a potent factor in its production.

How permanent filtration can best be secured is the question of the times. Sclerotomy seems to be no longer strongly advocated except as a preliminary to iridectomy in acute glaucoma, but sclerectomy in some form is fast gaining in favor for the formation of a filtering cicatrix. The small wedge operation of Herbert and the sclerectomy of Lagrange with or without iridectomy have found very ardent advocates. Notwithstanding this, the trephine operation of Major R. H. Elliot in the treatment of acute and chronic glaucoma seems to demand the close attention of ophthalmologists.

Having had the opportunity of using a Stephenson's trephine in the Elliot operation, and appreciating the difficulty in its technical use, I have had a special trephine adjusted to a Von Hippel corneal trephine. The ease with which the trephining can be carried out with this instrument makes the operation a simple one.

In the Elliot operation the trephining is effected at the sclero-corneal margin, after the conjunctival flap has been made, the attachment of which is on the corneal side of the limbus. I have, however, in several instances dissected the flap from the corneal margin outwards, and after trephining have brought the flap over the wound as in the Van Lint operation for cataract.

I have also from time to time modified the conjunctival flap, at one time stitching it down on one side and removing the thread at the end of twenty-four hours; at another simply loosening the conjunctiva over the corneo-scleral opening and allowing it to heal.

Having had the opportunity of seeing some of Major Elliot's work, I was very much impressed with the results he obtained, and determined that I would make trial of the operation. My first two cases were operated upon early in September last, and since then I have repeated it many times. In all of these cases the intra-ocular pressure was minutely taken before and after the operation by Schotz's tenometer. This instrument gives us a very accurate estimate of the tension of the eyeball. The blood pressure was also taken in each and every case, and was often found to be much above the normal. The highest was 296 Hg. In this case the tension of the eyeball was 88 mm., which was equivalent to +3 in the older nomenclature. If an iridectomy had been performed, in this case, retinal hemorrhage would have undoubtedly occurred, and enucleation of the eyeball would have followed. In fact, it would not have been good surgery to have tried any operation but enucleation. By performing this operation in other cases of a similar character, we have at least retained the eyeball. In cases where the visual fields were very much contracted down to 10 and 15 degrees, I have found that this vision was not only retained, but in many cases it became increased. Whilst the advocates of sclerectomy in some form have urgently put forth strong claims for the adoption of their procedures, it must not be supposed that the iridec-

tonists have been slow to protect the interests of their favorite operation. Notably among these is Prof. Abadie, who has, in "La Clinique Ophthalmologique," strenuously defended iridectomy as the operation of election in glaucoma, and as violently attacking sclerectomy as practiced by Lagrange as an operation for the same disease. In a spirited manner Prof. Felix Lagrange replied in defense of sclerectomy, and as the correspondence appeared to be assuming a personal character, it was determined that the debate should be discontinued.

The two operations which I have brought to your notice—the Sliding Flap in simple cataract operations and the Trephining in acute, but especially in chronic glaucoma, have been great additions to ophthalmic surgery. Time alone will tell whether these operations will be accepted by ophthalmic surgeons, but it affords me great pleasure to be able to add them to my list of operations. In closing I must quote from the Bowman Lecture* recently delivered by Dr. Landolt, in which he says: "The organ on which we perform our operations is unquestionably the most noble, the most precious, the most delicate organ of the human body. Is not the eye the chief portal of our intelligence, of our joys, and of our sorrows? Through it are we not in touch not only with our world but also with the universe? Is not the acuteness of this organ infinitely superior to that of all other senses? What is life without sight? *Vitam dat qui lucem.*" (He who gives light gives life.)"

*Delivered June 7, 1911. London.

DISCUSSION.

ON THE PAPER OF DR. L. WEBSTER FOX.

DR. G. C. SAVAGE, Nashville: I really do not know whether it is courtesy or not to discuss the paper of a visiting confrere. I do not think Dr. Fox has left very much for us to say. I don't want to say very much about the paper, but I do want to say something about Fox.

He started out in life with a view to making a fortune in business. A little later he retired from business, and at the time he made his decision to study medicine I met him in the Jefferson Medical College of Philadelphia, so that I have known him from that time until this. I have had some little to do in raising him not only as a man, but as an ophthalmologist. [Laughter.] I have sometimes found the job a little hard to do. I have greatly enjoyed the paper which my friend Fox has read. I always enjoy meeting him; I expect to take him home with me after the meeting has ad-

journed and show him something of the beautiful city of Nashville. I have not told him I was going to do this, but he learned a long time ago that when I make up my mind to do a thing, I am going to do it.

You have all listened to what Dr. Fox has said, but none of you have listened with greater interest than some of us fellows who have known him for a long time.

Dr. Wood was afraid he would miss something of the paper, so he actually closed his eyes, that his ears might receive every word as Dr. Fox read his paper. Price I see in the audience. I am sure, he did not go to sleep. He had both his eyes and ears open, for he is usually found in that state up to midnight sometimes, and sometimes later than that. [Laughter.]

The ophthalmic surgeons of Tennessee all delight to remember Fox as one of their personal friends, and it was certainly a delight to me when I found he had been invited by the committee to deliver an address on this occasion, and it was a further delight to me to find out he had accepted that invitation. I do not know whether I could have gotten here today or not, because of the Commercial Congress in Nashville, if it had not been that Dr. Fox is here and I wanted to see him before he grows much older than he is now.

Before I take my seat, however, I want to say that I shall pass over entirely the operative procedures which he has mentioned, for nothing additional can be said to make them clearer or more comprehensible. I wish to say one single word about glaucoma.

The latest, and to my mind the very best theory for glaucoma has been announced by a man who is not an oculist, but a bacteriologist and pathologist. That theory is that not only glaucoma but all dropsies are due to acidosis of the tissue. I heard this Dr. Fischer, now of Cincinnati, but formerly of Germany, read a paper less than a year ago on glaucoma in which he advocated this theory. If his theory is correct, his practice certainly ought to be correct. I am before you today to state that in many, if not in most cases of glaucoma, the result of practice bears out the correctness of the theory of Dr. Fischer, that it is an acidosis of the tissues within the eyeball, that invites liquid into the eye and brings about that overfilled condition of the eyeball which makes it as hard as a rock sometimes, and gives us the picture of glaucoma. The treatment is the outgrowth of the theory of Fischer, namely, to inject subconjunctivally a solution of citrate of sodium. I came home from Indianapolis, after hearing the paper, determined to test the matter, and I have found it is a most satisfactory thing in reducing tension. It will reduce a great amount of tension in just a short time. Injecting the sodium solution beneath the conjunctiva brings about a process of exosmosis, and the watery fluids inside the eye rapidly diminish in quantity, and the iris recedes to its normal position, and the patient is comfortable. I have only one case to relate in which, I am sure, my friend Fox will be interested. At nine o'clock, day before yesterday, after writing eight or ten letters with his hand, felt pain in his right eye, and observed that his vision was growing dim. In an hour or two he called

me over the phone to know if I could see him after the arrival of the night train. This was night before last. I told him to come to the office as soon as he reached the city. He was blind in that eye in so short a time. The eyeball was hard as a rock; he was suffering intensely, was groaning with pain, had a cold perspiration on his brow when I met him in the office. It was a case of acute glaucoma, and while I was reluctant to try this treatment in a case of that kind, I decided at once to cocanize the eye and inject subconjunctivally fifteen drops of the citrate of sodium solution, which I did, and in half an hour he was easy and remained so up to the time I left last night for this meeting, and tension has been reduced. The iris had been allowed to recede and every condition was much improved. I may have to operate on that case, but certainly there is nothing that will reduce tension as well as the citrate of sodium injected subconjunctivally, except evacuation of the watery constituents, and that leads me to make one suggestion in regard to the disease that is not under discussion here today. I have requested some of my friends to test the spinal fluid in the cases of spinal meningitis we are having, and if they find the fluid to be acid, as I think they will, then subcutaneous injections of the citrate of sodium up and down the spinal column will serve a great purpose in tiding these people over and probably making their recovery even more certain.

DR. HILLIARD WOOD, Nashville: I am not going to discuss Dr. Fox's paper. I want to thank Dr. Fox for it. I came to Chattanooga to hear it.

The operation for cataract, as suggested by Dr. Fox, shows that the operative treatment of cataract is not yet all that we could wish. While the old classic operations have been in vogue a long time, and have given us in a general way excellent results, the fact that operators continually try innovations shows that there is something yet to be desired, and I was very much impressed with the doctor's reference to the sliding flap operation in cases of sepsis about the eye, and recall a case which I have now in which I did some three or four weeks ago an extirpation of the lachrymal sac preparatory to an operation for the removal of cataract, and I shall try Dr. Fox's method on that case on account of sepsis.

With regard to the treatment of glaucoma, the doctor's discussion of the relation between high blood pressure, arteriosclerosis and intraocular pressure was certainly most interesting and most instructive. I thought it was the most clear and elaborate discussion of the relation of these things I have heard anywhere. I certainly enjoyed it, and want to thank him for it. I thank him, too, for coming here and delivering that address to us. [Applause.]

DR. GEORGE H. PRICE, Nashville: The paper presented by Dr. Fox is one, I feel satisfied, of great moment, and especially to those who are interested in this particular line of work.

The operation devised for the perfection of cataract extraction, the saving of some eyes and the increase of vision, is one I have had no experience with, nor have I seen it done.

As to the question of glaucoma, and what we may call a variation from the physiological condition which induces glaucoma, I was glad indeed to hear Dr. Fox on this and to learn something in regard to the methods of differentiation, as to the cause or condition present, in order to determine the character of the operation which should be resorted to at the time. If glaucoma is dependent, as suggested by Dr. Savage and intimated or alluded to by Fischer, upon acidosis of the structures inside of the eye, which calls upon the blood vessels to pour out increased material within the cavity itself, and subconjunctival injections of citrate of sodium will decrease the pressure by calling upon the tissues from the interior of the eye to increase their outflow and reduce tension, it will prove a valuable method of treatment. As to whether it will permanently relieve this condition or not, remains to be seen. The immediate effect, which he describes, is certainly most gratifying, and one well worth our consideration and trial. If we can always determine the character of the tension within the eye itself and differentiate as to whether we have an arteriosclerosis of the vessels within the eye or simply an increase of blood pressure, without arteriosclerosis or marked degeneration in the vessels, we can determine whether it would be better to make a temporizing operation, or whether we can make a real operation for glaucoma, whether it be the von Graefe method or otherwise. The point in these conditions is this: it is well known, and it is an established fact, that if you suddenly relieve the pressure upon any restraining or retaining vessel which is carrying a very high steam pressure, as, for instance, a boiler which has been superheated and allowed to cool down to even twenty pounds of steam, the boiler explodes suddenly, so that there is something wrong. Ten pounds of steam will not explode an ordinary boiler, two hundred and ten pounds of steam is often carried in a locomotive boiler, without any distress at all; but if there has been a sudden release of pressure on the locomotive boiler, and you have only as much as ten or twenty pounds of steam, you suddenly convert the retained water within the boiler into steam which expands so suddenly and violently that the boiler can not stand the sudden strain and hence explodes. The same mechanical principle underlies certain conditions about an eye with increased tension. When you are operating upon the eye, if you have a simple increase of blood pressure, but integrity of blood vessels, you can release the pressure gradually with more safety than you can where you have increased pressure, and in addition to that, a partially degenerated blood vessel. If the partially degenerated blood vessel is present, and the sudden release of blood pressure on the surface takes place, there is an immediate influx into the vessels and hemorrhage occurs because you have released the pressure in the eye which held in check the blood pressure in the vessels. The subconjunctival injection of citrate of sodium, which would release pressure gradually would act in the same way as paracentesis of the aqueous chamber, or the making of an incision within the sclera itself, thus allowing the aqueous material to escape gradually, then at a more convenient season, the opera-

tion, whichever it is that might be selected, can be done with greater safety.

The ideas brought out by Dr. Fox in this paper are interesting, and I am more than glad to have had the opportunity of hearing it. I certainly appreciate his presence with us.

Dr. Fox [*closing*]: I simply rise to thank you for the reception you have given my paper and the remarks that have been made by my friends are so complimentary that I have nothing to say. Of course, glaucoma is a disease that is world-wide, and we are trying to find out exactly what is the primary cause of this sad disease which, up to the present time, has never found a permanent remedy. Eserin is an aid to the treatment of glaucoma, as is also the injection of citrate of sodium, as described by Dr. Savage, but it is this disease in its chronic form which is stealing the sight of hundreds of eyes day by day. I know of no operation that is so safe and so easily performed by the majority of men as the Elliott operation for glaucoma.

Again, gentlemen, I thank you for your appreciation of my slight efforts. [*Applause.*]

SURGERY OF THE TONSIL AS RELATED TO CHRONIC DISEASES.*

BY C. B. WYLIE, M.D.,
Chattanooga, Tenn.

Chronic diseases, which are caused or accentuated by infection through the pharyngeal lymphoid ring, are almost universally recognized at the present time as a very common mode of systemic infection. It has been said that at least 50 per cent of acute sicknesses of childhood and adolescence are due in some degree to this mode of infection. Whether this be correct or not, it must be recognized that it is very commonly encountered in general practice, and its early recognition enables us to more readily diagnose and successfully treat the various manifestations which such conditions present.

Surgery of the tonsil in its relationship to chronic diseases has engaged the attention of the profession in the last five or six years, as never before in the history of medicine.

Within the pharynx is located the pharyngeal lymphoid ring. This ring is formed by a chain of lymphatic glands made up of the pharyngeal tonsil in the vault of the pharynx, lymphatic structures around the mouths of the eustachian tubes, the palatal and lingual tonsils. The lymphatics of the palatal tonsil are numerous, emptying into the lymphatic glands near the angle of

the lower jaw, and into the superior deep cervical lymphatic glands. The other lymphatic vessels of the upper portions of the pharynx terminate in the post-pharyngeal glands; those of the middle portion in the inferior deep cervical lymphatic glands.

The palatal tonsils are two oblong rounded bodies situated in the recesses of the fauces; bounded in front by the anterior pillars which extend from the soft palate downward, outward and forward to the sides of the base of the tongue; they contain the palato-glossus muscle; behind by the posterior pillars which are directed downward, outward and backward from the soft palate, and fade away upon the lateral wall of the pharynx. They are produced by the palato-pharyngeus muscle. Externally, they are in relation with the superior constrictor muscles of the pharynx. They vary in size in different individuals, and normally should not project beyond the pillars.

The internal surface of the tonsil is covered by the oral mucous membrane, and presents from ten to fifteen puncture-like orifices which lead into recesses called crypts. The tonsils are compound follicular glands—that is, they contain a number of aggregations of lymphoid tissue similar to that of the solitary glands of the intestines. The entire gland is enveloped by a fibrous capsule.

Blood supply is from the ascending pharyngeal branch of the external carotid, and ascending palatine branches of the facial artery, the dorsalis linguae branch of the lingual artery, and the descending palatine branch of the internal maxillary artery.

Acute inflammations presenting the familiar picture of lacunar tonsillitis are found usually in the faucial tonsil, but may be present in the pharyngeal structures as well. These inflammatory processes become localized in the deeper crypts or follicles, creating a condition suitable for stagnation of the secretions, and the resulting constitutional symptoms are often quite marked during an acute exacerbation; the temperature rises to 103 degrees or higher, and particularly is this so in children. Pain and aching of the limbs and headaches are almost invariably present, with more or less general depression, and the feeling of choking and dryness in the throat directs our attention to the chief focus of infection.

*Read before the Tennessee State Medical Association, Chattanooga, April, 1912.

Early examinations may show but little redness within the pharynx. Within twenty-four hours, however, the faucial tonsils and the lymphoid tissue in the vault of the pharynx, will be considerably swollen and usually covered with a yellowish-white exudate, distributed about the mouths of the crypts, and extending into these structures. In a few days this coating, which consists principally of recent necrotic pus-corpuses some epithelium, microbes and other debris, begins to break down, when the entire symptom complex begins to subside.

The tendency to recurrence and localization which we observe in these inflammatory conditions, which by the way are by no means rare, will throw some light on their pathogenesis. Thus it is that an ordinary cold many times appears to be the only exciting cause.

Lacunar angina is in reality a preformed disease. By that I mean that these attacks are encountered in individuals in whom the lacunae are considerably branching or abnormally deep, thereby permitting the pathogenic fission-fungi, which are present in the mouth in health—together with other pathogenic organisms—to develop into large colonies. The crypts being kept in a state of constant irritation by the action of metabolic products, thus have their local resistance to congestion and inflammation greatly lowered, to the secondary determination of blood to the inner organs, whenever the individual catches cold.

The characteristic picture of lacunar inflammation in the subsequent course of the disease oftentimes becomes obscured by the more or less prominence of the products of desquamation. This coating or membrane may extend over the surface of the tonsils, but is readily distinguished from the diphtheritic membrane by being easily removed without tearing the tissues or producing bleeding. As a result of the inflammatory condition, the lacunae become dilated, as they are surrounded only by lymph-follicles which break down and give up the material they contain, resulting in more formation of small cavities, and later by destruction of the intervening septae unite with adjoining spaces. This is the condition that is responsible for the tendency to recurrence and usually proceeds until the external openings of some of these cavities in some manner become obliterated.

The concretions which have been mentioned frequently give rise to a number of symptoms

without producing an actual recurrence of the inflammation, and, as they are hidden away in the depths of the lacunae, they frequently escape detection for some time. Such conditions may produce a feeling of a foreign body, frequent desire to swallow and choke, expectoration of mucous in the morning, interspersed with small quantities of blood and usually the subjective sense of a bad odor. These are the most common symptoms complained of. Should there be catarrh of the nose and accessory sinuses with hypersecretion of the naso-pharynx, a careful examination of these parts should be made to determine whether or not they are the offending part.

That the lingual and pharyngeal tonsils are less subject to the disease than the palatal tonsils, is due partly to the protected position of the one, and the fact that the surface is more frequently cleansed mechanically in the other, and partly to the fact that openings of the crypts of the pharyngeal tonsils are somewhat hidden and directed downward, thus facilitating the escape of the secretions.

A description of lacunar inflammation of the pharyngeal ring would be incomplete, and would be deficient in an important essential, if it did not incorporate the complications which are much more important than the local condition. In the majority of instances, the invading army of cocci encounter the resistance of the inflamed follicles. These immediately pour out numbers of leukocytes into the intervening spaces, and the invading army—so to speak—is checked by the lymph glands of the invaded region, so that without exception, glandular enlargement to some degree accompanies every attack of angina; but as soon as the normal amount of outpouring leukocytes becomes insufficient, there is nowhere in the whole body a better port of entry for the invasion of the fungi (that have not been damaged by secretions) than is found in the lacunae or crypts of the tonsils. On this account it is quite common to see after tonsillitis, irritations, and even grave inflammations of the serous membranes.

Clinical experience makes it possible, and often quite probable, that the source of various inflammations of serous membranes, in which no other definite cause can be discovered, is to be sought for in the pharyngeal ring, whether the latter has been actually diseased or only predisposed,

which may be due to some structural abnormality.

Such conditions as pleuritis, endo-carditis, pericarditis and polyarthrititis, slight irritations of the joints are undoubtedly many times due to the pathological condition of the lymphatic ring of the pharynx. The above conditions which have been described, not only produce the acute inflammatory conditions of the serous membranes that have been mentioned, but are potent factors in chronic affections, such as tuberculosis, rheumatism, nephritis and Diabetes.

First and most important of the chronic diseases with which the tonsillar tissues are associated, and in many cases the primary foci of infection, is that of tuberculosis. Local manifestations, however, of tuberculosis of the tonsils or their adjacent tissues are comparatively infrequent. Experience has shown us that two forms are recognized—active or clinical and latent. The latter is not very easily differentiated from simple tonsil hypertrophy. Clinical and latent tuberculosis are differentiated essentially by the absence of subjective and objective symptoms in the latter, and definite subjective and objective manifestations in the former.

The characteristic appearance of the clinical type is a peculiar pallor with a slightly edematous or weeping surface, covered with tenacious, thin, somewhat milky secretion. Localized areas of small pin-point or pin-head grayish-white deposits, variable in extent, are observed situated beneath the tonsillar surface. Subsequent to these, we may see the beginning of ulceration manifested by a superficial excavation variable in extent, with no accompanying redness of the surrounding tissue. Subjectively, there is a sense of pain and discomfort in the throat, which at times becomes excessive; and is found associated with variable degrees of constitutional symptoms, such as rise of temperature, accelerated pulse, and diminution in weight.

Clinical observation has shown that the local group of symptoms may persist for a considerable length of time before constitutional symptoms manifest themselves, or the constitutional symptoms may follow closely upon the first local manifestation. It is rare indeed, with the local conditions of the throat which have been mentioned, that deep ulceration and marked destruction of tissue is present without a marked constitutional involvement.

Dr. E. C. Sewall in microscopical examination of 722 pairs of tonsils finds 3.9 per cent showing evidence of tuberculosis infection. Sixty-eight of these cases had enlarged glands of the neck, varying from slight enlargement of probably benign character, to extreme tuberculous condition with softening, fistulas, etc.

He has been able to keep in touch with 160 patients, and offers the following summary of these cases especially with reference to enlargement of the cervical glands:

Ninety-two had no enlarged glands. Sixty-eight had more or less enlarged glands. Fifty-seven of these went down permanently. Six went down and enlargement recurred. Two which were enlarged before operation did not subside. Three were slightly enlarged and are now.

1. It will be seen from the above records that quite a large percentage of the children had enlarged glands, but many of these were only slightly swollen.

2. Practically all of the glands giving trouble have been associated with tuberculous tonsils, or were tuberculous at the time of the removal of the tonsils.

3. That the removal of the tonsils worked in a beneficent manner is shown by the fact that often the swollen tuberculous glands subsided, though not always permanently.

4. That certain tuberculous glands are not associated with tuberculous tonsils is of special interest. We believe that tubercle bacilli can travel to the glands without damage to the tonsil, and this accounts for the following facts (also for the higher percentage of tuberculous glands):

5. Glands once tuberculous, associated with tuberculous tonsils or not, may enlarge even after the tonsils have been removed.

6. We find tuberculous glands more often than we find tuberculous tonsils.

7. Even when there is a reappearance of the swelling, the glands show more of a tendency to heal and the individual to enjoy health after the tonsils have been removed.

Dr. W. C. White (*American Practitioner and News*, January, 1912) believes that every tonsil that shows in the fauces after a child is six years of age, should be removed. This undoubtedly is a radical view to take, and one which is scarcely tenable.

But when we consider that these glands which

are generally supposed to have ceased functioning before adolescence has been reached, and located in a region so abundantly supplied with blood and lymph, in the direct line of the passage of all foods and in a cavity which in health has a large variety of micro-organisms according to Mueller; with the proper amount of heat and moisture to make an ideal incubator, it is not surprising to find so many infectious and chronic diseases directly traceable to this score.

It is an undeniable fact that most tonsils, whether showing external evidence of inflammation or not, if taken between the thumb and finger and squeezed, will expel more or less cheesy, foul-smelling material. This same material by a series of experiments when injected into guinea pigs has developed tuberculosis in fourteen out of twenty-one injections, and the remaining seven showed severe septic infection. When such results are obtained from apparently normal tonsils, is it any wonder that we look with suspicion upon all chronically inflamed tonsils?

The second constitutional disease of importance, which is associated with and follows lymphatic inflammation of the throat, is rheumatism. A large percentage of muscular and articular rheumatism is accompanied or preceded by inflammation of the lymphoid ring of the pharynx. This has been amply demonstrated by the promptness with which rheumatic conditions clear up, by the complete enucleation of the palatal tonsils without internal medication.

That the tonsil has been proven to be an avenue for the entrance of infection to the system producing both acute and chronic nephritis, that their accompanying sequelae, such as endocarditis, pericarditis, arteriosclerosis, etc., have been recognized and demonstrated by numerous observers in the past few years is beyond question.

The treatment of latent tuberculosis of the tonsils consists in their removal by the most complete methods possible. The prime object is not so much the importance of removing a possible tonsillar involvement, as it is to prevent further infection through structures known to favor such infection. It is a mooted question whether all tonsils, whether associated with enlarged cervical glands without any other evidence of tonsillar involvement, should be removed or not. The utter impossibility of determining this by inspection will be apparent to one not having

considerable experience in this line of work. The histological diagnosis not being of service until the structure has been removed, it, therefore, must rest upon the judgment of the observer. Where enlargement of cervical glands are encountered, with a history of frequent colds and more or less malnutrition showing an evidence of lowered vital resistance, even in the absence of other well recognized indications for tonsillectomy, we should not hesitate to perform this operation, which I believe will best subserve the interests of the patient.

The local conditions demanding enucleation of the tonsils are as follows:

(1) Chronic lacunar tonsillitis in which there is a history of repeated attacks; (2) chronic lacunar tonsillitis in which there are repeated attacks of peritonsillar abscess; (3) tuberculous tonsil; (4) primary chancre of the tonsil; (5) malignant growth of the tonsil; (6) acute infections, such as diphtheria, scarlet fever, etc., with subsequent systemic symptoms of infection.

The regional conditions demanding enucleation of the tonsils are:

(1) Chronic persistent pharyngitis, especially lateral; (2) tubal catarrh with associated middle ear disease; (3) enlarged glands of the neck; (4) apical tuberculosis infection; (5) perpetuating bronchitis in children.

The general systemic conditions are the following:

(1) Rheumatism with its complications and sequelae, as endocarditis and myocarditis, arterio-sclerosis, arthritis, pericarditis, pleurisy, peritonitis, perineuritis, and myositis, so-called muscular rheumatism; (2) blood changes, as chronic septicemia with secondary anemias; (3) gastro-intestinal disturbances such as gastro enteritis and duodenal catarrh with subsequent cholangitis; (4) parenchymatous changes such as parenchymatous nephritis, hepatitis, and pancreatitis; (5) changes in the special organs as episcleritis and phlyctenular, kerato-conjunctivitis.

TREATMENT.

The treatment of hyperplasia of the tonsils necessarily becomes surgical in most cases. Local measures in such conditions are usually without results other than annoyance to the patient.

Operation on the palatal tonsil is called for when there are recurrent attacks of angina, as well as their complications and sequelae, show-

ing a constant focus of infection which will be found by careful examination, and when the hyperplastic condition assumes the form of a mechanical obstruction, thereby interfering with swallowing and free respiration. The same condition being present in the lingual tonsil calls for similar treatment.

In children adenoid vegetations of any size should always be removed, because the consequences, especially the deafness, while they may not be marked at the time, rarely fail to make their appearance later when it may be too late to correct them. Thorough cleansing out of the naso-pharynx should be done as a preliminary measure in adults for the relief of pharyngeal symptoms particularly insufficient ventilation, as well as in the treatment of sequelae within the nose, such as hyperplasia of the turbinates, deflected septum, and inflammation of the accessory sinuses.

The size of the tonsils has but little bearing upon the symptoms which they produce, except those of a mechanical nature, and particularly in adults do we many times find pronounced local or constitutional symptoms where the tonsil is quite small. Small tonsils *per se* are not always what they appear to be. The so-called submerged tonsil on dissection proves to be of considerable size. This is due to the topography of its anatomical surrounding. Extremely small tonsils, which cannot be easily seized with an instrument, can sometimes be treated by splitting open the crypts and thoroughly cauterizing them either by trichloroacetic acid or the galvano-cautery. Similar conditions in the lingual tonsil should be treated in like manner. All pharyngeal tonsils, however, should be extirpated.

In removing the faucial tonsils, care must be exercised to avoid wounding the pillars, particularly the anterior, which in most cases would result in a profuse hemorrhage. Complete removal of the faucial tonsil, and which by the way, is always indicated in a hypertrophied or other diseased condition, can best be done by dissection.

After local anesthesia in the adult, or general anesthesia in a small child, the body of the tonsil should be grasped by a vulselum forcep and drawn inward and forward; when with a blunt-pointed tonsil knife, the pillars are thoroughly stripped loose from the body of the tonsil, which will permit it to be drawn well out into the

throat. This procedure should be continued, either with the tonsil knife, suitable scissors, or blunt dissector, until it has all been dissected loose except the pedicle which can then be divided by the scissors, the cold snare or tonsillatome—the use of the snare being preferable to the scissors or tonsillatome because it will crush the ends of the divided artery, which in the majority of cases will greatly lessen the amount of hemorrhage following; the bed from which the tonsil has been removed should then be treated with tannate of glycerine or some other suitable styptic.

The time consumed in an operation of this kind ordinarily is very short. With proper technique, there should be no septic conditions following, and a rapid recovery is almost invariably the rule. It is the operations which do not completely remove the entire gland that prolong the inflammation and cause after trouble. A slight elevation of temperature where this operation is indicated, is not a contraindication for such procedure. No surgeon is justified in delaying operative procedure of this kind on account of such temperature elevations. An acute outburst of a chronic condition such as I have mentioned, will recover much quicker if tonsillectomy is performed, than if it is allowed to run its course with only local application.

There is no part of the human economy where the lymphatic system will so rapidly disseminate septic materials as the lymphatic ring of the pharynx.

(Discussion follows next paper.)

THE TONSILS.*

BY C. B. JONES, M. D.

Knoxville.

The reason for choosing the tonsils as my subject is to try to impress, favorably, all here of the superiority of tonsillectomy over cauterization and tonsillotomy, so I will speak more in regard to the faucial tonsils, some of their diseases, causes for their diseased condition, and treatment, but more especially the latest surgical treatment.

Tonsillectomy is not a new treatment in the larger cities of the United States, but is the

*Read before the Tennessee State Medical Association, Chattanooga, April, 1912.

latest and the only complete operation, and perhaps may be new to some present.

According to my subject, it is necessary that I mention the pharyngeal (Luschka's), or as generally called adenoids, and lingual tonsils also, as they in connection with the faucial form what is known as Waldyer's ring. This ring being composed of similar structures of a glandular nature, and subject to the same exciting causes, it is not strange that when we find the faucial tonsils diseased, we find Luschka's, and very often the lingual involved also. We may find an hypertrophy of Luschka's tonsil without any appreciable or subjective trouble of the faucial tonsil, but seldom, if ever, find it reversed.

The lingual tonsils are not involved so often on account of not being so well supplied with crypts or lacunae. These lacunae are the open doors by which micro-organisms, causing inflammation and subsequent hypertrophy, enter. So we can understand the necessity of a careful examination of this entire ring, lest we leave a diseased portion untreated.

The pathological condition of the pharyngeal tonsil, or as generally called adenoids, is an overgrowth or thickening of the glandular tissue, normally found in the vault of the pharynx. We may divide them into two classes; a soft mass composed mainly of lymphoid tissue with small amount of connective tissue, well supplied with blood vessels, and covered with ciliated epithelium. This class we find in children. The second contains more connective tissue, making it firmer, and is found in adults. The chief cause of this hypertrophy is the irritation and inflammation occurring during attacks of one of the exanthematous fevers.

It is a well-known pathological law that the lymphatic structures of children are prone to become hypertrophied in response to bacterial stimulation.

I firmly believe that if the necessary attention were paid to the teeth, mouth, and nose of the child, suffering with one of the exanthematous fevers, there would be less adenoids, less hypertrophied tonsils, less cervical adenitis, and less work for the specialist.

According to statistics, this hypertrophy is more frequently found between the sixth and fifteenth years, but may be found in the infant. It is found in one to nine per cent of children, otherwise normal, and fifty to seventy per cent

of deaf mutes. It cannot be said that there is an hereditary tendency without it would be through similar environments, or anatomical conformations, predisposing to infection.

Cold, dampness, or any cause that might lower the vitality enabling infection, would be classed as predisposing or exciting causes.

We have an acute inflammation of the pharyngeal tonsil which is an infectious disease, and is very often not recognized on account of its hidden location. The infectiousness is manifested by an initial chill, rise of temperature, prostration, fast pulse, swelling of glands of neck, etc. If in connection with the above symptoms we find an obstruction of nasal passages, with loss of resonance of voice, we are led to suspect that the trouble is located in nose or post-nasal space, and by aid of the post-nasal mirror we find the tonsils red and swollen, crypts filled with an exudate, also the lateral columns exuding a yellowish secretion, our diagnosis can be made without any doubt.

Treatment.—As the prostration is severe, the patient should remain in bed until fever abates. Ice held in the mouth may give some relief, but local applications should not be used. After recovery, removal is very necessary, as recurrence of acute attacks are prone to occur. The symptoms of hypertrophy of the pharyngeal tonsils, aside from the acute symptoms heretofore given, are: the patient breathes through the mouth, sleeps with mouth open, snores, catches cold easily and often, the nostrils are often excoriated due to the discharge which comes from the anterior nares, are very often dull, stupid, have short upper lip, protruding teeth, with impairment of hearing on account of involvement of eustachian tube and middle ear. A small amount of hypertrophy in some will cause all of the above symptoms, while in others a large amount will give but little trouble. It is wonderful how the above symptoms will clear up in the majority of cases after their removal. Surgical removal is the only treatment worthy of mention.

There is not anything new as regards the removal of the pharyngeal tonsils, but I wish to mention my disapproval of the barbarous practice of holding by force a child, while they are having them removed. There is no local remedy that will any way near make the operation painless, and more, if we apply cocaine to the hyper-

trophied mass, we cause a shrinkage and are not able to remove them thoroughly. Of course, we are subject to the wishes of the parents, and we all know the prejudice existing with some of the laity, against a general anæsthetic, but I feel we are justifiable in using our influence towards getting the parents' consent to give the little patient a general anæsthetic. Ether is not dangerous, when used by a competent anæsthetist. The only disadvantage to its use for such a short operation, is that the patient ought to remain quiet or in a recumbent position for a few hours after its administration, also the necessary precautions must be taken before its administration. Chloroform should never be used. Somnoform, which is composed of Chloride of Ethel, 60 per cent, Chloride of Methel, 35 per cent, and Bromide of Ethel, 5 per cent, is my preference, and my reasons are that it is claimed to be as safe as any of the anæsthetics. It is not necessary to starve the patient before its administration. They look as natural while under its influence as before. It takes only from 30 to 60 seconds to get them anæsthetized. Its effects last from one-half to one and a half minutes, giving the operator time to operate.

As to the lingual tonsils, when you find a patient complaining of a tickling cough, clearing the throat, and getting nothing up, cough worse when lying down, voice easily tired, sometimes a feeling of constriction about throat, history of taking cough remedies without relief, and on examination you find base of tongue thickened in the form of one large or several small glands, like split peas pressing against epiglottis, almost hiding it, remove this hypertrophied mass, and your patient will be relieved.

The faucial tonsils are glandular organs composed of nodules held together by lymphoid tissue, situated one on each side of the fauces, in the sinus tonsillaris between the anterior and posterior pillars of the fauces. The anterior pillar contains the palatoglossus muscle, the posterior pillar the palatopharyngeus muscle. Externally they are in relation with the inner surface of the superior constrictor muscle, and are closely connected with the above structures. They are incapsulated organs presenting on their inner surface from 6 to 15 small openings in each, called crypts or lacunae, leading into small recesses from which numerous follicles branch out into substance of the gland. These lacunae ex-

tend the entire depth of the tonsil, to the capsule on its outer surface. With every act of deglutition, the muscles compress the tonsils, forcing food and bacteria into the crypts rather than out of them. Normal tonsils do not project beyond the inner surface of pillars of fauces. Their function, as yet, is not understood. While some believe them to have an active part, in the formation of blood, others claim an internal secretion, and as proof of the latter, intravenous injections of an aqueous extract produces the same result as those obtained from injection of suprarenal extract. So we have to judge clinically, whether we are justifiable in their removal, and up to the present, there is little to show evil effects, but abundance of evidence that much good results from their removal when diseased. There cannot be any doubt but what the tonsils are a protection against the invasion of micro-organisms into the system, as long as they are in an healthy condition, but as soon as they become diseased are a positive source of danger. The parts favoring infection most are the lacunae, and especially those in the supratonsillar fossae, and those covered by the plica tonsillaris, which on account of their imperfect drainage, cause an impairment of their epithelial lining, and thereby opens a way for systemic infection. The majority of cases of cervical adenitis in children is due to the absorption of some irritant through the tonsillar crypts. Clinical observation supports the view that articular rheumatism gains entrance the same way as it is commonly observed following an attack of acute tonsillitis. Scarlet fever is claimed by many to have its primary lesion in the tonsil. Tuberculosis may also gain entrance into the body through the tonsillar crypts, and here it may be of interest to give an experiment; while it is not positively conclusive evidence, there is a possibility of its being true. Five CC. of coloring matter was injected into the tonsil of a small dog. Nine days later the same amount was injected into the opposite tonsil. Thirty days later the autopsy showed a large amount of coloring matter free in the blood. The leucocytes tonsil and connective tissue of the neck, on both sides along the larynx to the aperture of the thorax, were colored symmetrically. The lymphatic glands along the large blood vessels, as well as those in the supraclavicular region, were deeply stained. The coloring matter was also found

within the lymphatic vessels, and in the paravascular spaces. A fibrous exudate was found in the apices of both lungs, thus forming a bridge of inflammatory material from the parietal to the visceral pleura. The coloring matter was also present in the exudate. The mediastinal and bronchial glands on the left side were also stained. In the left lung there were three other small fibrinous exudates, in which the coloring matter was present. The hypothesis is: that tuberculous infection of the apex of the lung may take place by way of the deep lymphatic chain, the supravicular gland, and thence to the parietal lymphatic vessels, where an inflammatory exudate is thrown across to the visceral pleura. The tubercle bacilli travel across this inflammatory bridge and enter the apex of the lung. Judging from this experiment, it is not strange that suppurative osteomyelitis, acute endocarditis, pulmonary gangrene, and other diseases have been traced through the tonsillar crypt route.

I will report a case that, to my mind, is some evidence in favor of the above experience.

A young man, twenty-one years of age, consulted me in regard to an enlargement on each side of his neck, giving this history: Three months prior he had an attack of acute tonsillitis, being the first trouble he had ever had with his tonsils; soon after the glands of the neck began to enlarge, more so on the left side than on the right. There was no pain or tenderness. On examination, I found the tonsils showing evidence of previous inflammation. On the left side of the neck there was an enlargement the size of a walnut; on the right side not so large; painless, soft, and no redness of skin. His lungs had been examined very carefully, and no evidence of pulmonary involvement could be found. Believing the adenitis to be tubercular, I made a moros test, getting a positive reaction. In this particular case I believe the tubercular bacilli entered by way of the tonsils, and were arrested by the cervical glands. Time will prove whether there is, or will be, an involvement of the lungs, as he has declined to comply with the advice given by myself and others, to have the infected glands removed, and also the tonsils enucleated.

Some other reasons for complete removal of faucial tonsils, when diseased or hypertrophied, are that they interfere with proper breathing. The patient is much more subject to catching

cold, and the general health is more or less impaired.

Certain nervous reflexes may be traced to the irritation caused by enlarged or diseased tonsils, and here I will report a case. A lady forty-six years of age consulted me in regard to attacks of difficult breathing which occurred every few weeks; she gave the symptoms of laryngismus stridulous. On examination, I found faucial tonsils slightly enlarged, with crypts well filled with leptothrix, pharynx and larynx normal. My conclusion was that the difficult breathing was a reflex spasm of the vocal chords brought about by absorption of toxins in the tonsillar crypts. So for several months after enucleation she has not had any symptoms of recurrence and feels better than she has heretofore for years. In this case I feel assured that neither tonsillectomy nor cauterization would have produced the same results. The mortality in diphtheria is much greater in children who have enlarged tonsils. Many hypertrophied tonsils tend to atrophy as the patient reaches the age of eighteen to twenty-one years, but the constitution is exposed to so many dangers during that time that it is not wise to wait. The surgical method of treatment is so well understood that the danger of removal is much less than those to which they are exposed by allowing the tonsils to remain. As before stated, a normal tonsil cannot be seen projecting beyond the inner surface of the pillars of fauces, so we might naturally infer from this statement that all tonsils hidden from view are normal, but not so, for we have what is termed the submerged tonsil, one that has undergone fibroid changes and is hidden behind the anterior pillar and the plica tonsillaris, and in some cases we find the lacunae filled with debris, bacteria and pus, while in others no such accumulations are to be seen, but by introduction of a bent probe into the crypts yellowish masses may be removed. In others the masses may be encysted on account of inflammatory closure of the mouths of the crypts, so we can clearly understand a submerged tonsil may be the seat of foci of infection, just as well as those hypertrophied.

I will now speak of the different operations, the reasons for and against them, and later will give some of the diseases of the faucial tonsil, that are only amenable to the complete operation, tonsillectomy.

Cauterization of the lumen of the crypts, or

through the substance of the tonsil from its upper to its lower portion, is advocated by a great many, and in selected cases it is good treatment. For instance, where we wish to cause a shrinkage of the hypertrophied condition in order to remove the obstruction, or where we have occasion to suspect hemorrhage. When we cauterize the crypts, they are still left for re-infection, at some later date, and by cauterization through the substance of the tonsil we cause a closure of the openings of some of the crypts, and more than likely bottle up bacteria that may cause systemic infection. So we cannot claim cauterization to be a thorough operation.

As to partial removal, or tonsillotomy, the same can be said as it, too, does not remove the source of infection. While in many cases it will give relief, how often do we hear people remark: "I have had my tonsils removed" (but decapitated or clipped is what they mean) "or cauterized several times, and they still give me trouble. They are as large as before the operation, have tonsillitis just the same, have to have them incised as often as before, and oh, I do wish something could be done that would give me permanent relief."

There is an operation that permanently cures tonsillitis, both acute and chronic; that will permanently prevent phlegmonous tonsillitis and peritonsillitis, commonly called peritonsillar abscess; that will permanently prevent reformation of tonsillar tissue; and greatest of all, will permanently prevent systemic infection through the lacunae route. There can be no more hyperkeratosis, no more calculi formation, and no more hypertrophy. This operation is called "Tonsillelectomy," enucleation, or the complete removal of the tonsil in its capsule.

Tonsillelectomy is purely an American operation. It has been performed in the larger cities of the United States only a few years, and also in London. Three years ago the first tonsillelectomy was performed in Vienna by a physician of San Francisco. Prior to that time the physicians taught that there was no known operation that would prevent the troubles heretofore mentioned. The greatest objection that can be brought against tonsillelectomy is hemorrhage, but according to statistics, hemorrhage is no more to be dreaded, and even not so much if the operation is done correctly, as it is in tonsillotomy. One should be careful not to cut the muscles in

closing the sinus tonsillaris, for by so doing there is danger of severing the vessels before they divide into the tonsillar branches, and being larger will naturally bleed more. Personally, I have no fear of hemorrhage in tonsillelectomy without I should be so unfortunate as to operate on an haemophiliac.

Tonsillelectomy can be performed under either a local or general anæsthetic. In order to appreciate the superiority of tonsillelectomy over tonsillotomy, etc., it is necessary for one to see or do the operation, or examine the tonsils that have been removed in toto, and then examine the throat after healing. If the proof is not sufficient as yet, to prove the superiority of tonsillelectomy over the other operations, I feel that all that is still needed is to mention the fact that in peritonsillitis by removing the tonsil in its capsule, we remove the internal wall of the abscess cavity, forever preventing a return. This alone would be sufficient to prove the superiority of the one operation over the others, even discarding its greatest indication, and that is, by removal of the tonsil in toto, we completely protect the system from invasion of micro-organisms, or their toxins, through that source.

DISCUSSION.

ON THE PAPERS OF DRs. WYLIE AND JONES.

DR. E. C. ELLETT, Memphis: I want to say in beginning this discussion, that I have removed my share of tonsils, and I expect to live to be ashamed of it. Just as sure as anything in medicine, this thing of tonsil operations is being overdone, and one of the worst faults that can be laid at the door of the tonsils is that they are placed in a position where they are so easily visible and so readily accessible. We must distinguish between the local disease and the general disease to which we attribute the tonsillitis. There is no doubt that a recurrent tonsillitis and recurrent peritonsillar abscess are conditions which can be treated by local measures, and I think most operators now will heed the suggestions made in the closing remarks of the last speaker to remove the tonsil entirely. I just want to say one word about that operation. I do not know what method the gentleman was going to advocate, he did not get to that, but to my mind the operation devised by Dr. Greenfield Sluder, of St. Louis, and demonstrated at the St. Louis meeting of the American Medical Association, and published in the *JOURNAL* for March 25th of last year, is the most satisfactory I have seen. The introduction of one instrument one time removes the tonsil complete in its capsule and does not disturb anything else.

One word more, and that is with reference to en-

larged tonsils. There is nothing more deceptive than an enlarged tonsil. There are faucial pillars, and there is a tonsil situated in that position, (illustrating) and if all you see is that little bit, it does not look large. A tonsil protruding from the faucial pillars like that, (illustrating) without any consideration as to its size, may look like an enormous affair. I do not think we ought to attach any importance to the size of the tonsils. Enlarged tonsils generally make no more difference to the patient in the majority of cases than the size of the appendix, and those of us who have our appendices do not know whether our appendix is an inch long or two inches long, and we do not care so long as it does not give us trouble. Of course, a tonsil may be so large as to interfere with breathing, but short of these enormous enlargements, I think we make a mistake in attaching any importance to the size of the tonsils. Whether the tonsil is diseased or not, is another matter, and there again the size does not make any difference. If it is small and diseased, you must do something with it. If it is large, and diseased, you must do something for it. It is a question of condition and a question of the symptoms to which it gives rise. Unfortunately I could not hear the other papers very well, and what I have to say will be a little haphazard and probably I misunderstood a good deal that was said. I hope I will go away with my ideas in a better systematized condition than they are now, for I am very much at sea upon the question of the relation of the tonsils to general diseases. I think there is just as much reason, however, to blame the tonsils for scarlet fever as to blame them for rheumatism. Scarlet fever invariably starts as an acute follicular tonsillitis, and for a few hours there is nothing, except greater constitutional disturbance, vomiting or convulsions, and a rapid pulse to characterize the onset, that is, nothing but a case of acute follicular tonsillitis. When you have an eruption, you are satisfied you have something else to deal with. We must go very slowly lest we find this question of rheumatism is exactly the same thing, and that the affection of the tonsil is rheumatic, and not that the rheumatism is tonsillar.

As regards the tuberculosis proposition, it is very difficult, especially for a man who is not doing general practice, to get sufficient experience on a large question of this kind to settle it in his own mind and to his own satisfaction. It looks to me that the tubercle bacillus is going a long way out of its way to get to the apex of the lung through the tonsil and lymphatics, as described when it could go right through the air passages without any obstruction at all.

As to the removal of the tonsils, I have not seen any bad effect from it. I have never seen a person who was any the worse for having his tonsils removed. The patient might have had a bad operation done and bad local conditions such as scars left on account of the right kind of surgery not being done. Other cases may have had hemorrhages following the removal of tonsils, but if these cases are left out of consideration, in my experience I have never seen the slightest bad effect from the removal of tonsils. There is nothing of that sort to give us any more alarm than would the bad

effects from the removal of the appendix in the same sense.

(A)

DR. GEORGE H. PRICE, Nashville: If the history of the tonsil has been correctly described, so far as its relation to general diseases is concerned, then we have found the focal pathologic point for every ill that flesh is heir to. [Applause.] I have for a long time believed that any focus of inflammation or any marked pathologic condition, which was easy of access and treatment, either surgically or medically, should receive proper attention.

I was glad indeed to hear Dr. Ellett sound a note of warning concerning the more radical ideas that are now prevailing in regard to diseases of the tonsil.

One of the gentlemen stated in his paper he did not know what the function of the tonsil was, and yet he described a number of functions which necessarily obtain, so far as the tonsil is concerned. If I understand what symptoms mean, and if I have any idea or knowledge of what we are to gain from indications, so far as general pathologic evidence is concerned, I would say that the seeming function of the tonsil according to some, is the conveyance of disease of every class, character and description which is of germ nature in its origin, and some of those which are not.

The tonsil, according to my idea of the tonsillar ring which surrounds the pharynx, stands as a Gordian knot against the invasion of the general anatomy by diseases of any kind, which may be bacterial in their origin. It is the great barrier thrown up to continually combat infection. Have we any other instances to that effect? Numerous.

Dr. Wylie has shown that "every ill flesh is heir to," occurred via the tonsil. The tonsil is making a fight and succumbs to invasion which it can no longer overcome. It is not the tonsil primarily that is involved, but the invading agency is greater than the tonsil can handle and that is just exactly what is the cause, and that is what obtains, and that is why Dr. Ellett sounded a note of warning.

In one of the papers—I think it was Dr. Wylie's—it was stated upon another authority that the tonsils of every child past six years of age should be removed, or that the child would be better if its tonsils were removed. That is a delusive form of statement. That sounds to me as though we were going to attack an organ, which was put here for a specific purpose and do away with its existence. Why is it, as Dr. Ellett suggested, that we find the tubercle bacillus making its entrance into the human organism by the route of the tonsil, by the most circuitous route, always through the lymphatic system, when it can invade it directly through the air cells? It may invade this territory circuitously and bring about its destruction in this way, but that is not always the case. Why do you find the tubercle bacillus lodged in the crypt of the tonsil? Because the crypt arrests it and in the struggle it sets up an irritation and tries to throttle it. Does it succeed? Not every time. Does the tonsil maintain the integrity of the individual against the onslaught? No

not always. I believe that when it comes to the question of operations, if the tonsil was more secluded and retiring in its nature, we would hesitate considerably before we would extract it by force, so to speak. It is well enough, as he has said, and as I believe in certain conditions, that the tonsils should be removed, and it is well enough under certain conditions to remove the entire tonsil but unless it is an absolute necessity and the indications are strongly in favor of such a procedure, I would not advocate it. We do not remove both kidneys because a man can not live without his kidneys, or at least, he can not live without one kidney. We do not remove his liver because he can not live without it. Would a surgeon amputate at the hip joint because a patient had irritation about the great toe? That is extreme, of course, but the point I wish to emphasize is this, the tendency seems to prevail now that we shall attack in the most radical manner every tonsil which shows any disposition to assert itself as a combatter of systemic infection.

DR. O. DULANEY, Dyersburg: There is no such thing as an ideal operation, which we should adopt for the removal of tonsils, especially we men who do nothing but eye, ear, nose, and throat work. I have seen bad results from both plans of operation. The worst result from an operation at all that I have seen, was from a tonsillectomy that was performed on a neurotic patient. The mucous membrane was in a state of hyperesthesia, and any foreign substance which would cause an irritation would result in the contraction of the muscles and in turn cause the patient to complain of shortness of breath. I do not believe that Dr. Wylie intended that every tonsil should be removed by the radical method of operating, as he suggested. He was merely quoting the opinion of others. A few days ago I noticed an argument similar to that advanced by Dr. Wylie as to the removal of the tonsils. It stated that every child six years of age having hypertrophied tonsils in every case, they should be removed. I do not believe in this statement at all. If we take into consideration the number of children who have hypertrophied tonsils until they reach the age of puberty, without any diseased condition and not causing any local or systemic trouble, it is much better for the patient to leave them alone. It is well to recognize the fact that on examination you will find there is only a small percentage of children but what have enlarged tonsils, especially Luschka's, and it has been my idea, unless you can see some external manifestations, or the tonsil is producing some alarming condition, the best thing to do is to be conservative, and I do believe that the authors of these papers, if they have a chance to finish their remarks, are as radical as we think for.

There is no subject that has been discussed in our societies as much as the tonsils, unless it be that of appendicitis which is of more interest to the general profession, and every year we hear men suggest radical ideas on either subject. Now is the time for conservatism and I feel sorry for the man who reaches the

point and advocates the removal of every tonsil for the single idea of getting a fee.

DR. WILLIAM LITTERER, Nashville: Just a word or two in defense of Dr. Wylie and Dr. Jones. It would certainly do every one good if they would read the last issue of the JOURNAL of "Infectious Diseases," in which there is an article by Dr. D. J. Davis, of Chicago, who reports one hundred and thirteen cases of hypertrophy of the tonsils. Out of one hundred and thirteen cases he found twenty-eight that were due to multiple arthritis and some to arthritis deformans. Of this one hundred and thirteen cases, there were also ten cases of endocarditis and ten of nephritis. These cases came under the observation of Dr. Frank Billings whom you all know, as well as Dr. Miller, and other prominent clinicians of Chicago, bearing out in a clinical way Dr. Davis' findings. In most of these tonsils were found in pure culture streptococcus infection; that numbers of these cases were absolutely cured by the removal of the tonsils; others were benefited. Cases of nephritis of the chronic parenchymatous type were absolutely cured according to Dr. Billings by the removal of the tonsils. They found a hemolytic streptococcus, also the streptococcus capsulatus another organism. They grew these cultures upon various media and injected them into rabbits, producing the arthritic lesions, and in two instances they produced nephritis in the rabbit.

It is certainly an interesting article, very comprehensive and scientific, and it will possibly be abstracted in the JOURNAL.

DR. WYLIE (*Closing on his part*): This has certainly been a very interesting discussion, although there is diversity of opinion upon some points. With your permission I will finish the reading of my paper and touch on some of the points in which I have been misunderstood. (Reading from paper.)

My idea in removing the tonsils is based upon the pathologic conditions that are present in the tonsil at the time. It has been demonstrated again and again that by the removal of the chronically diseased tonsil systemic infection is entirely eradicated.

DR. JONES, (*Closing discussion*): Dr. Wylie expressed my views exactly, but we were somewhat misunderstood.

I do not believe in the removal of tonsils just because they are larger than normal or project beyond the pillars of fauces, for often we find them in this condition on account of previous inflammation which has ceased to recur, but, in addition to the above, if they continue to become inflamed, or if we have evidence of systemic infection or history of repeated attacks of peritonsillitis, they should be removed in toto. Enucleated. Enucleation is the only complete operation. It is the only operation by which we can be sure of no subsequent inflammation of tonsillar tissue, no recurrent peritonsillitis nor systemic infection by the lacunae route.

THE TRAUMATIC NEUROSES DUE TO ALLEGED OR ACTUAL INJURY, FROM THE MEDICO-LEGAL STANDPOINT.*

BY RAYMOND WALLACE, M.D.,
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The tremendous industrial and transportation development of the last few decades has given rise to an important and ever-increasing type of cases which demand a proper understanding and classification. They appear largely as the result of alleged or actual injury, either physical or psychic, and our professional relationship becomes of greatest importance when litigation is entered upon for the sake of securing indemnity.

The spirit of "acquisitive litigation" is not new. It has no doubt existed since the establishment of legal tribunals, when the individual has sought compensation for injury or suffering believed to be due to the negligence of others. Indemnity was sought, however, for material injury, such as loss of an eye, an arm, or leg, or a broken skull, or spinal column, with definite objective symptoms that were unmistakable.

But one must stand appalled today at the wholesale litigation based upon alleged or actual injury where the physical evidences are slight or absent, yet where serious and permanent damage to the mind, health and body is claimed. It would be difficult, indeed, to estimate the amount that is now paid annually by railroad and industrial corporations to claimants of this class.

This very situation places upon the medical profession the tremendously important and responsible task of serving not only as personal physician to the claimant, but also as witness or expert in the courts of law when the justice and extent of his claim is determined.

The real genesis of this type of injury, from a medico-legal standpoint, dates back only from the time of Erichsen. His theory of concussion of the spinal cord as a pathological entity was purely hypothetical, yet he attempted to show that even after the slightest injury or shock there might develop the most serious forms of progressive nervous disease. It was explained at first upon a theory of disturbance of vascularity

of the spinal cord, and later it was thought to depend upon multiple areas of inflammation disseminated throughout the cerebro-spinal column. It has at various times been considered organic, partially functional, and wholly feigned.

But the erroneous conclusions of this early work, which have been very largely controverted by later investigation, have, nevertheless, served as the basis, both in the lay and professional mind, for a vast number of absolutely fraudulent damage suits.

In the early eighties Page saw that Erichsen's work was without pathological basis, and that there was no evidence that a spinal concussion—comparable to the demagnetization of a magnet by a blow of a hammer, a favorite expression of Erichsen's—was ever caused by direct violence on the back or by a general shaking up of the whole body.

Dana, in 1884, gave a complete resume of this class of cases, which, with few modifications, is accepted today as essentially correct.

He states: "That the term 'spinal concussion' is misleading and often incorrect, and the symptoms which are usually associated with that name are really symptoms of traumatic neurasthenia, hysteria and hypochondriasis, associated more or less with symptoms of injury to the vertebral muscles and ligaments and to the spinal nerves; that, in other words, *concussion is mental shock and physical bruising.*"

The evidences of violence which follow a railway or trolley car accident, for example, are many and varied. There may be anything from simple abrasions, jars and wrenches to muscular or tendinous ruptures, fractures or dislocations, nerve injuries, paralysis and many injuries of internal organs. But rarely do corporations deny liability where physical evidence of injury is present, and such claims are usually settled out of court.

The widespread impression that the spine and spinal cord are liable, before all other parts, to meet with injury in cases of accident, accounts in large measure for the multiplicity of these cases in the courts today. The lawyers believe it, the laity believe it, and, unfortunately, many doctors believe it. Such cases are met with in the courts, but how rarely are they seen in the large clientele of private practice.

*Read before the Tennessee State Medical Association, Chattanooga, April, 1912.

Countless accidents occur in private life, such as in football, in runaways, automobile smash-ups, falls from great distances, which give rise to broken bones and serious laceration of tissues; yet, because of the absence of liability on the part of others, either individual or corporation, it is rare, indeed, though physical pain may persist for years, to find the development of the neuroses—the subjective symptoms of accident which are here to be discussed.

Because of the predominating psychic factor in these cases and the hope of receiving indemnity from some one, Hamilton has recently classed them under the term "litigation psychoses."

This same syndrome of symptoms has been variously designated as accident aboulia, railway spine, spinal concussion, Erichsen's spine, traumatic neurosis, traumatic neurasthenia and traumatic hysteria.

The etiology of a traumatic neurosis does not depend so much upon the extent of injury or physical violence as upon its subjunctive reflection upon the mind of the person injured. Its development is almost entirely psychogenous.

There are several factors in this development. An *intrinsic predisposition* may be present because of inherited or acquired disease which pre-existed the accident. It is quite conceivable that chronic intoxication with alcohol, with syphilis and with lead, may form an unstable psychic background. Certain occupations under the stress of intense heat and noisy machinery may make the nervous system more sensitive to shock.

The natural mental inferiority of the injured one may, by designing lawyers, be attributed to injury. I have examined cases in which defective intelligence and hearing—due to adenoids and nasal polypi—were attributed to brain and cord injury from an accident. Another case of physical inferiority in which parasthesias, disturbances of locomotion and mental inalertness, due to morphinism, were attributed to a nervous shock from an electric wire, and for which substantial damages were sought.

There is in all accidents, in relation to the individual, a certain phase which must be considered. Hamilton calls this the sense of *preparedness*; that is to say, the attitude of the individual

so far as expectation is concerned. The locomotive engineer may be thrown violently from his cab and sustain grave physical injury, but how often do we meet in them a conflicting hysteria, neurasthenia or hypochondria? But the passenger, unconscious and unprepared for danger, may receive only slight physical injury, but serious nervous or mental shock.

Several years ago Prince took the trouble to collect statistics which show that there is a comparative absence of nervous disorder among those who are on the lookout or who are consciously "taking their chances." He found that while football players may sustain almost any form of violent injury, they are never the subjects of traumatic neurasthenia or traumatic hysteria. Outten found that of 18,275 cases of railway injury among employes there were but 8 cases of the so-called traumatic neuroses, or one in a little over 2,000; while of 884 injured passengers there were 11, one in about 76.

It is, therefore, most essential to investigate in detail the physical, nervous and mental condition of a claimant previous to an alleged accident.

The physical symptoms of severe primary shock are those dependent upon the impaired cardiac action with resultant anemia of the brain, and for a period an exhaustion of general nervous function. The mental symptoms are, first, unconsciousness, and, later, depression and psychasthenia. These latter may exist for a long time and finally lead to forms of neurasthenia and to psychoses of varying kinds, provided conditions be favorable for such development.

However, the vast majority of cases which have sustained more or less physical injury, and months or years later bring suit for spinal injury with its variegated syndrome of symptoms, rarely suffer from primary shock. The neurosis which they present is largely a product of subsequent environment.

Following the pain and functional inconvenience due to the accident, the mind of the injured person begins to dwell upon the local injury, the accident itself, the unjust misfortune of his being a victim of such an accident, and the responsibility of another for his present incapacity and suffering.

At this juncture, had he fallen from a step-ladder in his own home and wrenched his back or twisted the ligaments of his hip, and no one responsible but himself, no nervous symptoms, no neurosis, would develop.

Sleepless nights follow, during which he meditates upon his condition, his present incapacity, and predominating all is the thought that some one must be held responsible.

A favorable psychic environment at this period is not usually lacking. Friends and relatives come forward with sensational tales of similar cases, with prognostic forebodings. They point out new and undreamed-of symptoms and pains, which are soon acquired and become very real. It is insisted that he is unable to work. He may attempt his former occupation, but, impressed with his incapacity, he returns to his bed more discouraged and pain-stricken than ever.

The moment the question of damages arises the dominant or nearest relative usually exerts a most extraordinary and dangerous influence. A compelling sense of injury and justice leads them to seek redress. The relatives have enlarged their understanding by discussing the case with doctors and lawyers, and the conviction of injury is strengthened and intensified. Subsequent examinations by physicians and conversations with lawyers inflame his mind. He now exaggerates his symptoms. He speaks of "horrible nights," tearing pains, bloody urine, constant headaches, impotence, obstinate constipation, vertigo, frightful weakness.

There now enters the final and characteristic factor of an accident psychosis—not the pain he suffers, not the memory of the accident, not the distress at his incapacity to work, but the insatiate and thought-consuming desire for money as a compensation for it all.

The detection of the various forms of accident psychosis as differentiated from organic injury is not always of easy moment, and in many cases learned physicians will differ and appear as experts on opposing sides.

But this is unfortunate. The almost mathematical accuracy with which a brain or spinal cord injury, a hemiplegia, a paraplegia, a monoplegia, a myelitis, a sclerosis, a neuritis, may be diagnosed, lends little excuse for these professional bickerings on the witness stand.

A differentiation between organic lesion and functional disease, when a careful examination of the claimant may be had, should be absolutely possible in the vast majority of cases.

To illustrate a few of the typical forms of traumatic neurosis, permit me to report briefly a few personal cases. Certain seemingly unimportant details are given because of their bearing upon the psychic environments.

J. F. T., male, white, age 42, Fort Payne, Ala.; examined September 12, 1910; occupation, engine hostler A. G. S. Ry.; salary, \$52.50 per month. First worked five months for A. G. S. Ry. in 1904. Previous to alleged accident he had been working for them for eight months. Went out on a local strike twice. Alleged to have been injured between 11 and 12 p. m., November 30, 1908. He was on night duty and was assisting a wrecking crew to re-rail an engine. He states that he was under the wrecked engine, on his knees, attempting to turn a replacer around, when the engineer threw a lever forward and an eccentric link struck him upon the lower part of the back and right hip. He states that he crawled out from under the engine by himself and in a short time went home. Dr. W. saw him next day and stated there was a bruised area over left hip.

Returned the following night to go to work, but laid up on boiler and hired two men to do his work. The following morning he stated he had to be helped off the engine and to be carried home in a wagon. He states that he couldn't walk, and that the next morning he passed bloody urine, and had done so up until about a month ago, a period, you will note, of nine months from the date of the accident.

He was taken to Birmingham twenty-four days after the injury, and he states he frequently passed blood while there. Dr. S., who was present at the examination, and who was attending surgeon in Birmingham, asked why it had never been found by the attendants. He replied that he did not call the attention of the nurses and doctors to it. Spent several weeks at the hospital in Birmingham, and was able to walk to his home from the train upon his return (a distance of some nine city blocks). Admits walking in Birmingham without a cane or crutch, but also states that he has never walked

a step without a limp since he was hurt, and that since his return from the hospital he has grown steadily worse. For nearly thirteen months he has now lain about the house, most of the time without a physician, but with the typical environment above described.

In his own words, he now complains of pain in back and hip and nerves. Says he gets weak and shaky and nervous. Says he weighs much more now than he did in Birmingham. His appetite is good.

The subsequent physical examination, which I will not detail, showed absolutely no injury to spinal column, nerves, bones, muscles or heart. He complained of pain at any point on the body you made pressure. His face had the dogged look of one trying to deceive.

In February, 1911, his suit for \$15,000 was tried before a jury of his fellow-townsmen, many of whom had been forced to help support him and his family for more than a year while he was waiting for his suit to come to trial.

He had to be assisted to the witness stand by two men—with the greatest caution—and apparently with severe pain. But as the direct and cross-examinations proceeded and he forgot himself, he crossed and recrossed his legs, stooped over and handled himself generally as a man without pain.

After the facts of his simulation were presented by physicians, and after they had sworn that he was a fake, with absolutely no physical injuries or evidences of injury, a verdict was returned in about thirty minutes for \$1,500.00.

This was a typical case of a traumatic neurosis—or, as Hamilton puts it, "a litigation neurosis." His predominating physical symptoms were those of neurasthenia—not caused by an accident, but by his subsequent mental environment and attitude toward the accident.

Before I leave the form of traumatic neurasthenia, let me illustrate by reciting a case where suit was not brought, where an earnest effort to regain health existed, and where recovery resulted.

F. P., expressman, male, age 63, was in an express car when it rolled over an embankment. He was severely shaken up and bruised. After he recovered from his bruised eye and legs and

arms, there persisted a dull, aching pain in the lower part of his back. He became restless, irritable and morose. He could not sleep nights. He could not walk down stairs. He was certain he could not return to his work for months, and perhaps never. It was a typical traumatic neurosis—a neurasthenia with melancholic manifestations. He was given electric and vibratory treatment to the spine, some nerve tonics were administered, but he was constantly assured, both at home and by his physicians, that he would permanently recover and would be able to perform many more years of useful work. Finally the relationship of his own mental attitude was explained to him in detail and he was urged to assist. In two months he returned to his work, and for the first few weeks he felt he could not continue, but with his own will power and repeated assurances from his physician and family, he continued, and for nearly three months he has now performed his former duties, with practically no inconvenience or suffering. This is an illustration of the usual recovery of these cases—in a reasonable period of time—when the factor of litigation for the purpose of securing indemnity is not present.

Let me now detail to you a typical and remarkable case of traumatic hysteria which I saw the latter part of 1910.

J. W., colored porter, age 22, married one year. States that on March 4, 1910, while at work as porter and while dusting he was struck by a live electric wire on the back of his head. He states that it knocked him down and he became unconscious. He says he remained in bed three days and then returned and tried to work for two days, when he found himself unable to continue. He returned home and was later carried to his mother's home, where he has remained until the date of this examination—a period of about nine months.

His physician stated that there was a discolored area on the back of his head, which disappeared upon the application of salve.

He complains now (his own words) of headache all the time; eyes feel badly; states that he eats and sleeps very well; bowels move well every day; has no fever or sweats. His chief complaint is that he suffers from certain "spells," which come on at any time, day or night. Dr.

T., his physician, stated that he has seen him in probably a hundred of these spells.

Upon examination, the man was well nourished, with good but slightly rapid pulse; temperature normal; stomach, bowels and lungs normal. An area over the back of the neck, a little to the right, he stated, upon pressure, caused much pain. This was the area of the electric burn or shock. Reflexes were all somewhat exaggerated. Pupils normal. The man appears exceedingly nervous and trembles considerably. At irregular intervals he sighs deeply.

During the physical examination he had one of the "spells" already mentioned, in which he groaned, became rigid and fell. He was caught and laid on the bed, and remained there for perhaps two minutes, during which time he would not respond to questions. Within a few minutes we lifted him to his feet, and he walked about the room in a dazed but belligerent condition. We then seated him in a chair, where he sat still, in a dazed condition, for a few seconds, when(distorting his face and doubling up his fists, he moved indefinitely about the room. He was then sent into another room, where he lay down upon a couch. In about five minutes he responded intelligently to questions and said he felt badly and that his head hurt.

Now, this negro never had any of these hysterical convulsions before the alleged burn, and his case was undoubtedly a traumatic hysteria. He and his entire family were greatly impressed by the seriousness of his condition, but more especially by the liability of the corporation for whom he worked. I advised settling the case out of court, for I was positive he would have an hysterical seizure on the witness stand, and yet I was likewise positive that the seizures would disappear as soon as the case was settled. It was compromised for some \$1,500.00, and the boy's father told me only recently that he was perfectly well, working every day, and has not had a single convulsive attack since he received his money.

I have recited this case in detail, for it is so typical, and the prompt recovery after the award of damages is so very frequent. A prominent lawyer, after securing a substantial verdict in a case of traumatic hysteria, recently remarked to me that "a good round verdict does more to cure

these cases than a dozen physicians' prescriptions."

Some eighteen other cases, presenting various phases of the traumatic neurosis, I shall report later in a more comprehensive paper, but I believe I have sufficiently illustrated at least two very typical forms.

Another phase of intense interest is that of pure simulation. This term should be employed only when the individual purposely and consciously attempts to deceive us. He may willfully exaggerate such symptoms as do exist, or represent disease conditions to exist which either pre-existed the accident or which do not exist at all. In fact, he may present symptoms or physical signs due to an accident which never occurred. The attempt to deceive must form an integral part of our conception of simulation.

This paper is necessarily curtailed and incomplete, but there is a wide field for thoughtful investigation in the traumatic neuroses, and the profession must more fully prepare themselves for the judicious handling of these cases. The medico-legal phases must be better understood, so that reputable physicians shall more closely agree upon diagnosis and prognosis when appearing as sworn experts before the juries and courts of the land.

DISCUSSION.

ON THE PAPER OF DR. WALLACE.

DR. JERE L. CROOK, Jackson: I have listened with a great deal of interest to the able exposition of this important subject by the essayist, and can find no point on which to differ from the conclusions which he has given us. It hardly seems necessary to add to the completeness of the subject except to reinforce some of the thoughts which Dr. Wallace has expounded. The summary of his essay centers in the fact that we should be aware and be on guard in reference to the prognosis in every case of this character, especially one that has a medico-legal aspect, which should interest us chiefly. I can not recall a single case of definite traumatic neurosis in my experience where the lure of lucre has not played the most important part in it. There has been no definite pathology in any of the cases. There has been in every case the expectation of profit from the outcome of the suit, which is either in process of formation or has been instituted. This is the largest factor in the etiology of traumatic neuroses in my judgment, and whether it be a traumatic hysteria, or whether it be traumatic neurasthenia, the only compound which suffices to cure the patient is one composed of silver and gold. This calms the troubled

spirits and reduces the hyperesthetic area to a minimum. What are we to do with such a subject as this? Simply this: in every case of this kind, we should subject the patient to every possible means of determining whether or not there be a definite pathology. The pathology of injuries of the cerebro-spinal system has developed to that point now where there is no real doubt in the minds of those who are competent to make a diagnosis as to whether or not there exists in the brain or the spinal cord a distinct lesion. The symptoms are so definite and so fixed that we can certainly determine whether or not there be pathology there. If we can eliminate a lesion of the spinal cord and its nerves, the question then arises whether or not we have to deal with a definite case of neurasthenia, general weakening of the nervous system and of the vital powers due to shock and fright, and also pain engendered by the accident. There is a definite time in which these symptoms of pain and fright and nervousness should continue in a normal individual. If that individual by virtue of previous disease, or by reason of unfortunate environment, is in such a condition of mental health that he is easily susceptible to the things which would naturally ensue from accident, railroad accident or otherwise, he naturally has a weakened resistance through nervous diseases, and is more likely to have a nervous trouble or difficulty which will last.

The fact is, there are so many cases in line with the one related by the essayist, where the duration of the trouble coincided with the duration of the lawsuit, that we must look upon them as malingerers, for we know that within a few weeks after settlement or termination of the lawsuit all symptoms of disease disappear. I believe that when we take a fixed position with reference to this matter and let it go out to the public generally that we do not believe in the existence of these cases except in rare instances, that we do not lend credence to the story of patients who are taking advantage of the situation of an accident for the purpose of getting money from the railroad company or from any other corporation that may be interested, if we take a positive stand and say that our medical teaching in regard to the treatment of neurasthenia and its various manifestations lead us to believe that nearly all are cases absolutely without any foundation in fact, and are based entirely upon the desire to get money from the company, we would have fewer of these cases to treat. And the main thing we should learn is this: the very reason why expert testimony possesses so little value in a court of law is because of the fact that we have been beguiled by the wiles of these patients who are seeking to cause us to injure our professional reputations by going on the witness-stand and testifying they are permanently disabled because they have been bruised in a railway accident. In the last case that happened in my own practice, I knew absolutely the patient was not injured, and told him so at the time. [Time called.]

DR. BATTLE MALONE, Memphis: I have been very much interested in the subject which Dr. Wallace has presented. We railroad surgeons have these cases com-

ing before us very often, and we have to observe the truth of the statement made by Dr. Wallace in his paper that the employees do not have these neuroses, whereas they are very common among passengers. The doctor gives as an explanation of that fact the passenger is taken unawares, whereas the employee is prepared, at all times, for injuries. I do not think that reason holds good. We know very often the railway employe, conductor or flagman is as much surprised or taken unawares by a wreck as the passengers on the same coach, and yet it is a fact that very seldom do we have a case of traumatic neurosis in a railroad man, whereas it is quite common in passengers. We find always, when a railroad man is hurt, he is anxious to get well. He wants to get back to work as quick as possible, and he is inclined, as a rule, to minimize his troubles. In the cases of passengers, they have no employment frequently to seek. A neurosis does not interfere with their business. I have been compelled to believe that a great many of the so-called neuroses are not neuroses at all, but are cases of simulation. I would not be quite so positive as Dr. Crook is that the lure of gold, the desire for compensation, is the only cause of neurosis, because I have seen cases of real traumatic neuroses, where, after the case was settled and the party obtained full compensation, the symptoms of a neurosis continued. I know of several cases where the neurosis has persisted; but I do think it is difficult for us to decide between a neurosis and simulation sometimes. As Dr. Wallace has pointed out, it is quite easy to make a definite diagnosis between an organic lesion and a neurosis. We can do that, we can demonstrate the absence or presence of organic lesions as the result of trauma. But it is a difficult thing frequently, and in a large proportion of cases impossible, for any one to say definitely whether a man has a neurosis or not, and juries and our courts recognize the fact that if a man has a neurosis he is entitled to compensation just the same as for an organic lesion, but the difficulty is, if we treat these patients honestly, to determine whether they have neuroses or are faking, and unless we carry on detective work and watch them closely to see whether they are faking or not, I do not know of any way by which we can say that a man who presents symptoms of a neurosis has a neurosis or is a faker. Very often it is difficult to make the distinction.

DR. E. T. NEWELL, Chattanooga: I have enjoyed Dr. Wallace's paper immensely. It is one of the best papers I have heard on this subject for a long time. But I think we ought to be careful about making up our minds so quickly about a patient who is hurt. I realize that anybody, who has done much of this work, certainly arrives at the conclusion by bias, that most of these people are fakers. I should say, the percentage runs as high as ninety or ninety-five per cent; but in justice to ourselves and to our patients, and in justice to the corporations which we work for, it is our duty to cast aside what our previous experience and opinions have led us to know or to think, and examine these

patients thoroughly, and always give them the benefit of the doubt.

I can recall a railroad case on the Missouri Pacific, Dr. Outten's case, where we thought the case was one of traumatic neurosis, and we found out later that the man did have a real injury to the hip; that he had a metastatic infection, and later died. That case made a profound impression upon me, one I never forgot, and one that makes me cautious about expressing an opinion, even though the circumstances would lead me to believe that the man was faking. We usually find seventy-five per cent of physicians are right (for the defense); but there is a certain proportion of them that are always with the prosecution. We find they are always ready to exaggerate the symptoms of which the patient complains, and they are always on that side, and you usually find the others on the other side. I am glad to say, the majority are usually right, and with the side of justice.

This subject has been very interesting to me, and a subject in the future we will have a great deal more to do with, and it behooves men who are interested in this work and along these lines, to post themselves in this special line of work.

DR. J. S. DYE, Chattanooga: Dr. Newell stated that seventy-five per cent of the doctors are right, but he failed to bring out two points, one of which is that he accepts subjective symptoms of facts and second, that the doctor generally depends upon his practice for support, and he naturally, without being the least bit crooked, leans toward the patient. It is also a fact that a great many doctors are affected with the same disease that the patient is. They have moneyitis, as some doctors call it.

I have had a great deal to do with these patients, those who were said to be afflicted with railroad spine; I have kept up with these cases, and not a single case went over three months after the time the litigation was settled. They were cured. They remained sick as long as the money lasts, and then they get well. Of course, when a patient, as Dr. Malone suggested, has a traumatic neurosis that is real, it is a different condition of things; but most of these patients get over their trouble if you will settle with them outside of court. I have never found a single case that did not get perfectly well, after payment was made.

There are a great many doctors who will not let you see a case with them. That, in some cases, may be all right, and I have had several cases here in Chattanooga to whom \$5,000 and \$7,000 were paid, where doctors have gone on the witness-stand and testified that the patient would get progressively worse and would be a cripple for life, in each case they were well in less than three months.

Dr. Wallace will recall a case in the Supreme Court in which three reputable doctors swore that the man was permanently injured and never would get well. A judgment of \$7,000 was rendered in favor of the man. A doctor had operated on the man's wife; he got his bill paid; the lawyer got his fee, and by the time the man paid what he owed he had very little money left.

He then went to work for the Hamilton National Bank, in two weeks after he got \$7,000 from the railroad company.

DR. S. R. MILLER, Knoxville: I think Dr. Wallace gave us a very good name when he called it "litigation psychosis." There is no better name for this general class of cases than that. I do not believe that there is a more potent hypnotic influence in America today than that of accident, not necessarily an injury, by one who is legally and financially responsible. It does not matter whether it is a corporation or not. If you are responsible and legally liable, the same thing exists as if a corporation. If your automobile runs into a man and you are in error, you are just as liable for damages as is a railroad company with many millions of dollars back of it.

Now, I am not one of those who believe that all of these people are dishonest. I believe that many of them have had their friends get around them, and after they have had a wonderful hypnotic influence brought to bear upon them, they are influenced in believing that they have some great injury, whether it be permanent or not, that some one is liable for it, and that some one should pay for it. I believe that that is the secret of the whole proposition.

I do not believe that these people make a tool of all doctors, but I do believe that they make a tool of the majority of our physicians. Dr. Newell estimates that seventy-five per cent of the doctors are with the defense, and twenty-five per cent are with the prosecution. My observation has been, after about eighteen years experience in pretty active work of this type, that about ninety-five per cent of the physicians are with the prosecution, and the others are with the defense. You can get a physician, who knows very little about the ultimate effect of an injury, to go on the witness-stand, who has just as much influence with the jury as the man who has given a great deal of time and study and afforded himself every opportunity to understand these cases thoroughly. I believe that if the physicians everywhere would study these cases from both sides, we would have a much more satisfactory and a more just settlement of these claims. I believe that there is a great responsibility resting on the seventy-five per cent and twenty-five per cent to get at the real condition. I do not believe any physician should go into any case, whether representing one side or the other, biased. He should find out the real condition. I do not believe any physician can see a case of this type from first to last and study it closely and not find objective symptoms if there is real injury to the spinal cord. If a man sees a case today, and it is the only time he sees it, he may make a mistake. If he sees the case three months after the first visit and bases his opinion on that and on such statements as the patient gives, he may make a mistake, but if he sees the case from the beginning and follows it for several weeks, I do not believe he will fail to see objective symptoms if there is any real pathologic lesion or injury of the spine or of the brain. But let us not go into these cases with a biased mind, but study them

carefully, study them closely, and stand by what we think is right.

What is the remedy? I do not believe it is expert testimony as we have it today, because you can go into every country community and get physicians to testify on almost any side of every kind of case.

The solution is the appointment of three or five well-qualified surgeons who shall have the power and duty to examine any and all cases without bias, just as the judges of our court, and who shall have no other capacity with any case in litigation.

Such a board or court should be able to reach an opinion justified only by the conditions in the case.

DR. RAYMOND WALLACE, (*Closing*): In regard to differences of opinion on the part of physicians on the witness-stand, I want to illustrate this by saying that during the Coco-cola trial here in Chattanooga I had the privilege of being in very close connection with a number of the greatest medical experts in the country, among them Vaughn, Hare, and men of that type. These men all came here with a very definite idea based on months and years of experience, and at the beginning of the case the experts expressed themselves very definitely, but as the trial proceeded difference of opinion began to be expressed, some contending one thing, and others contending the other. This is a personal instance, but it illustrates the mental attitude of doctors in cases of this sort. They get together, investigate the case, examine it carefully, and after some of the lawyers take the testimony to see where there are flaws in it, they become more and more convinced, and these experts will not go on the stand and say that a man is faking if he has sustained a real injury and has symptoms from it.

Dr. Newell says we should hesitate in making up our minds too hurriedly. I do not know, but I think all of us are prone to be on what we think is the right side. If we think a claim is a just one, we do not hesitate to express our opinion to that effect, and vice versa. I think ninety-five per cent of the profession are largely composed of fellows who are really afraid to make up their minds for fear of being on the wrong side, for fear the fellow will be paralyzed contrary to their statements. I believe the whole secret of this matter is for our judges to appoint doctors irrespective of the selection on either side. If the court would only select four or five doctors and let them impartially examine the individual and testify as to the facts in the case, the question would be solved.

MISCELLANEOUS.

THE VALUE OF DISINFECTANTS.

While our knowledge of the action of antiseptics and even of germicides in their application to the human body is still very imperfect we do know that certain preparations will destroy pathogenic bacteria and thus act as most reliable disinfectants. Unfortunately manufacturers have not given us the information needed

for a correct interpretation of the germicidal value of their disinfectant preparations. For this reason it is most appropriate that the U. S. Public Health and Marine-Hospital Service (Hygienic Laboratory Bulletin No. 82), through the work of J. F. Anderson and T. B. McClintic, should give us a reliable method for the determination of the germicidal value of disinfectants. Briefly stated, the method proposed determines the amount of disinfectant which has the same germ-destroying power as one part of pure carbolic acid (phenol) under identical conditions. This is called the "phenol coefficient" and, since the effectiveness of many commercial preparations is materially decreased when organic matter is present, it is determined in the absence and also in the presence of organic matter. Regarding the employment of disinfectants the following general directions are given:

1. To disinfect material in which there is relatively little organic matter, use a dilution of the disinfectant as indicated by multiplying the phenol coefficient (without organic matter) by 50. For instance, if a disinfectant has a coefficient of 5, a dilution of 1 to 250 should be used.

2. To disinfect material containing a relatively high proportion of organic matter, calculate the dilution of disinfectant to be used in the same way as is given above except that the phenol coefficient with organic matter is substituted for the coefficient without organic matter.

3. Provided the conditions as to organic matter are as stated in 2, and the phenol coefficient of the disinfectant with organic matter is unknown, then determine the strength of dilution to be used by multiplying the coefficient (without organic matter) by, say, 30 or 35.

Following the report by Anderson and McClintic the phenol coefficient of a large number of commercial preparations is given. Of considerable interest is the fact that a large number of commercial preparations, which physicians believe to be more or less efficient germicides, were found to have such a low phenol coefficient that no accurate determinations could be made. Thus, for such preparations as Chlorides it is reported that the phenol coefficient was not determinable.



Yours truly
J. A. Whituspoon

THE JOURNAL*of the***Tennessee State Medical Association****Office of Publication, Jackson Building, Nashville, Tenn.****JULY, 1912****EDITORIALS**

**PRESIDENT-ELECT OF THE AMERICAN
MEDICAL ASSOCIATION, DR. JOHN
A. WITHERSPOON, OF
NASHVILLE.**

The highest honor within the gift of the largest and most august body of medical men in the world now rests upon a member of the Tennessee State Medical Association. While the personal popularity of the recipient was doubtless the strongest factor in determining his selection for the honor, it is not to Dr. Witherspoon, the individual, that we would here do homage. He is the same man now as formerly, wearing the great honor with becoming modesty and dignity, and measuring fully up to all the requirements of the magnificent office to which he has been called. It is Dr. Witherspoon, the Tennessean, the representative of Southern Medicine, to whom we would pay special tribute at this time.

The South has not always been accorded that consideration in the councils of the national association which she has felt to be her due. Recent years have shown a change in this respect, and in this splendid preferment of one of her native sons she takes peculiar pride. She congratulates and felicitates herself that she possessed a son so worthy that this great distinction should be conferred upon him without a single dissenting voice from any State in the Union. Unanimous election to the presidency of the American Medical Association has rarely occurred in the history of the organization. It is safe to say that it has never before occurred with such beautiful and spontaneous enthusiasm.

Tennessee presents her compliments to her sister States and begs to assure them that their gracious courtesy and good will, so unmistakably expressed in the unanimous election of Dr. Witherspoon, will not be forgotten. We are

not unduly exultant, but genuinely pleased and gratified, and deeply appreciative of the extraordinary honor which has come our way.

Dr. Witherspoon is still a young man. Born in Columbia, Tenn., on September 13, 1864, he graduated in medicine from the University of Pennsylvania in 1887, and for the past twenty-two years has made his home in Nashville. He began his career as a teacher in the Medical Department of the University of Tennessee, and since 1895 has filled the chair of Medicine and Clinical Medicine in the Medical Department of Vanderbilt University. For the past nine years he has served on the Council of Education of the American Medical Association, where he was quickly recognized as one of the strong champions of higher medical education and rendered invaluable service to the cause. He is not a stranger to responsible positions, having heretofore been honored with many offices, among which may be mentioned the presidencies of the American Medical College Association, of the Mississippi Valley Medical Association and of the Tennessee State Medical Association.

The presidency of the American Medical Association has been committed to capable and deserving hands. The President-elect realizes the magnitude of the honor bestowed upon him and will repay it in the fidelity and success with which the great trust will be administered.

Following is the official stenographic report of the nominating and seconding speeches, which cannot fail to interest our readers. No more gratifying evidence could be given of the esteem in which Dr. Witherspoon is held by the profession in general than the instant and widespread acclaim with which his nomination was received.

Nominations being in order for the presidency, Dr. A. B. Cooke, of Nashville, Tenn., arose and said:

"Mr. President and Gentlemen of the House of Delegates—The State whose favorite son I am about to propose to you for the exalted honor of President of this association has not asked a similar favor at your hands for more than twenty years. We therefore feel that we cannot be accused of chronic office-seeking on this occasion. The favorite son of his native State, I rejoice to believe that the popularity of the man whose name I shall propose is not limited

to that immediate section. I am persuaded that the signal value of the services which have been rendered by this favorite son has been recognized and appreciated by all sections alike, and that East, North, West and South are now prepared to do him honor. ,

"It gives me particular pleasure in this connection to say another thing, and that is that the man whose name I shall propose is a clean man. There have been no alliances or combines of any kind or description entered into on his behalf. (Applause.) More than once, both before this meeting and while it has been in progress, he has said to me, 'I do not want the office of President unless it comes to me without the play of medical politics.' He is a man of mature intellect, a man of eminence and distinguished ability in his profession, one of the foremost medical orators of this nation, a broad-minded, big-hearted, genial, clean gentleman.

"Mr. President, I nominate Dr. John A. Witherspoon, of Tennessee, for President." (Loud applause.)

Dr. G. W. Guthrie, Pennsylvania: "I would not for one minute cast any reflection upon any member of the American Medical Association whose name may be presented for the great office of President of this body, but in rising to second the nomination just made I think I voice the sentiments of my State of Pennsylvania in saying that we believe that in the man named we have an ideal man for the honored position—honored in every way, and honorable, with a noble lineage that can be traced back to the Revolution; honored for his personality, his warm-heartedness, the spirit of good fellowship, and honored by his position in medical education for the uplift of medical education in this country. I think I voice the sentiments of the Pennsylvania delegation when I second the nomination of Dr. John A. Witherspoon." (Applause.)

Dr. A. T. Bristow, New York: "I would like to have the honor of seconding this nomination. We in the east know that the name mentioned embodies the scholarship of the South, and we second this nomination with great pleasure." (Applause.)

Dr. Donald Campbell, Montana: "It gives me great pleasure, as a delegate of the State

of Montana, to second the nomination of Dr. Witherspoon. He is well and favorably known in my part of the country. He came into my State last year and in some way got an elk—I don't know how—but he took it home with him, and with it he took our hearts also. He is known more than as a scholar; he is an important part of this country." (Applause.)

Dr. H. D. Arnold, Massachusetts: "I can speak for the whole united delegation in regard to one thing—that is, if it is the sense of this house that a Southern man be elected to this high honor, New England would be delighted. I also voice the entire sentiment of the New England delegation on one other point, and that is that we believe whatever the arguments are in favor of local representation, they are second to the qualifications of the individual, and we New England men are heartily in favor of Dr. Witherspoon for President. We advocate his election as a man, as a high representative of the profession, as a man who is honored and respected in his locality, as a man who has worked for this association for many years, holding high office, and always acquitting himself with credit in that most important branch in which we are all interested—namely, medical education. He is a clean man and an honorable gentleman." (Applause.)

Dr. C. R. Woodson, Missouri: "Missouri desires to second the nomination of that distinguished gentleman of Nashville, Tenn. (Applause.) When the votes of the delegates of Missouri are called for, the entire delegation will cast their votes in favor of Dr. Witherspoon for President." (Applause.)

Dr. W. E. Anderson, Virginia: "I wish, on behalf of the Virginia delegation, to second the nomination of Dr. Witherspoon." (Applause.)

Dr. J. H. McCracken, Texas: "On behalf of the Lone Star State, I desire to second the nomination of Dr. Witherspoon, a man who will reflect credit and honor on any position we may entrust to him." (Applause.)

Dr. W. J. Means, Ohio: "I deem it a privilege to second the nomination of Dr. Witherspoon for President of the American Medical Association. I have been associated with him for ten years in medical education work in this country,

and I consider it a pleasure and an honor to support him for this position." (Applause.)

Dr. S. C. Sheldon, Wisconsin: "On behalf of Wisconsin, I wish to second the nomination of Dr. Witherspoon, of Tennessee." (Applause.)

Dr. K. A. J. MacKenzie, Oregon: "It is not because I know Dr. Witherspoon well, nor because I am privileged to be numbered in the circle of his intimate friends, but because I happened to have knowledge of his splendid social qualities, his breadth of learning and his high professional attainments, and because I have knowledge of his fitness to occupy this distinguished position, which is the choicest gift that the most august body of medical men in the world can bestow upon its members, that I take great pleasure in supporting the nomination of Dr. Witherspoon." (Applause.)

Dr. C. E. Cantrell, Texas: "As a representative of the Southwestern States, representing California and Texas, I move you, sir, that nominations be closed, and I ask that unanimous consent be given and that we cast the ballot for Dr. Witherspoon." (Applause.)

Dr. Philip Mills Jones, California: "I came to this session of the American Medical Association and to the House of Delegates with one single, distinct object in view—namely, to do what my friend from Tennessee has done, to nominate a President of this association without political entanglements. I came here to place in nomination a man you all know, a man who has worked for the association, Dr. H. Bert Ellis, of Los Angeles, but, instead of doing that, I take great pleasure in seconding the nomination of Dr. Witherspoon." (Applause.)

Dr. Sol G. Kahn, Utah: "I have carefully canvassed the delegation from Utah, and they are unanimous in their choice of a man for President of the American Medical Association, and I take great pleasure in seconding the nomination of Dr. Witherspoon." (Applause.)

Dr. Edwin Walker, Indiana: "I want a front seat in the band wagon, and I desire to second the nomination of Dr. Witherspoon. (Applause.) I want to state distinctly and emphatically that certain stories which have been circulated to the effect that Dr. Wishard has made any bargain are absolutely untrue. Dr. Wishard is the high-

est type of man and deserves honor in every way." (Applause.)

Dr. Seale Harris, Alabama: "I rise to second the nomination of Dr. Witherspoon for President of the American Medical Association in behalf of the Alabama delegation." (Applause.)

Dr. William R. Tipton, New Mexico: "I take great pleasure in seconding the nomination of Dr. Witherspoon." (Applause.)

Dr. A. L. Brittin, Illinois: "In behalf of the Illinois delegation, it affords me great pleasure to second the nomination of Dr. Witherspoon." (Applause.)

Dr. Edward Jackson, Colorado: "I would like to inquire, through the chair, of the Chairman of the Committee on Constitution and By-Laws, whether there is any limit to the number of nominating speeches. In any case, I would like to move that unanimous consent be given and that the Secretary be instructed to cast the ballot of the House of Delegates for the election of Dr. Witherspoon."

Motion seconded by several and unanimously carried.

Secretary Craig then cast the ballot of the house for Dr. Witherspoon, and he was declared duly elected.

THE ATLANTIC CITY MEETING OF THE A. M. A.

The sixty-third annual session of the American Medical Association, held in Atlantic City, June 3-7, was a great meeting in every respect. The registration was thirty-six hundred, which does not include the large number of non-members and of members neglecting to register who were in attendance. Only one of the five meetings which have been held in Atlantic City equaled the last in this particular.

One of the brilliant features of the occasion was the opening general meeting held in the Apollo Theatre on Tuesday morning, June 4. After welcoming addresses by the Mayor of Atlantic City and the President of the New Jersey State Medical Society, Governor Woodrow Wilson was introduced and captured the splendid audience with one of his characteristic addresses, in which beauty of thought, grace of diction, simplicity of style and a perfect understanding

of the spirit of the occasion combined to charm and inspire. The scholarly address of President Jacobi on "The Best Means of Combating Infant Mortality" followed, after which the audience dispersed to take up the regular scientific work of the various sections.

The section programs were unusually full and many contributions of marked value were presented. The new section on Genito-Urinary Diseases proved unexpectedly popular, as did also the one on Hospitals.

The work of the House of Delegates covered a wide range and embraced many matters of great importance to the entire profession. The report of the Judicial Council included a new draft of the Principles of Medical Ethics, which, after slight modification, was adopted. In the future there will be no lack of a standard by which unethical conduct and questionable practices may be judged. In addition, the House definitely instructed the Council to conduct an investigation of professional conditions, with special reference to secret commissions and contract practice during the coming year.

Another item of interest was the regular triennial apportionment of delegates. In order to keep the House of Delegates within the constitutional limit of 150, it had become necessary to raise the unit of representation to seven hundred or fraction thereof. Tennessee thus loses one delegate, being entitled to only two for the next three years.

The most interesting occurrence which took place in the House of Delegates, particularly to Tennessee, was the election of officers. The unanimous election of Dr. J. A. Witherspoon, of Nashville, to the great office of President was almost without precedent, and the honor is one of which not only Tennessee, but the entire South should be correspondingly proud. More on this subject will be found in another column.

It only requires that one should serve in the House of Delegates a single year to be profoundly impressed with the magnitude and scope as well as the importance of the activities in which the association is engaged. While it is, of course, inevitable that honest differences of opinion on matters of policy should exist among one hundred and fifty men, the common purpose, which no one could fail to perceive, was to ad-

vance the highest interests of the profession and utilize the association for the promotion of the welfare of humanity. A spirit of genuine earnestness and devotion seemed to animate each individual delegate.

The scientific exhibit was one of the largest and most comprehensive ever prepared. This feature alone was of sufficient value to repay the time and expense incident to the trip.

The social diversions provided by the Atlantic City profession were even more numerous and attractive than usual. It would seem that the hospitality of the Jersey brethren might be called on too often, but the supply seems inexhaustible and the quality loses nothing in hearty generosity from time to time.

An unusually large number of members was in attendance from Tennessee and other portions of the South. This is a cause for congratulations, and it is to be hoped that a further increase may be noted each year.

"BLUD VANE BUSTED."

The inadequacy of Tennessee's present vital statistics law was recognized before its enactment. Providing, as it does, that reports of births and deaths shall be made annually by the school census enumerators, it could not be expected to prove other than a makeshift. Glaring evidences that it is this or worse have not failed to appear each year since it has been in operation.

The above title is the literally quoted cause of a death assigned by the enumerator of a certain Tennessee county in his report for 1911—"blud vane busted." And this is only one of the many equally absurd and ridiculous examples which might be cited. At best vital statistics so collected are totally unreliable, as shown by the fact that the Federal Census authorities refuse to recognize them. If they possess any value other than might be attributed to them on the vague basis of "better than none" or "a step in the right direction," it is difficult to define it. Even such a value is more apparent than real. Statistics of any kind collected in a haphazard way are necessarily both erroneous and misleading, and on this particular subject they merely serve to illustrate the wisdom of the old adage that half truths are often worse than whole lies.

Tennessee is one of the very few states remaining which is still unrecognized by the United States Bureau of Vital Statistics. This can and must be rectified. The Model Law, prepared after mature deliberation by the ablest experts in the country, would require little alteration to adapt it perfectly to our needs. There is good reason to believe that this law would have been passed by the last legislature had not political dissensions arisen and caused an exodus of sufficient members to break a quorum for several months. When the wanderers were finally induced to return partisan differences were too acute to permit of the consideration of any general measures.

It would be well if the physicians of the state would see to it in time that their several communities are acquainted with the needs, along this line, so that the members of the legislature which convenes in January, 1913, may know in advance what is expected of them.

DEATHS.

Dr. W. M. Biddle, one of the most prominent physicians of Columbia, died June 25th, aged 65. He is survived by his wife and four children. Dr. Biddle was a member of the Maury County Medical Society and Tennessee State Medical Association.

NEWS ITEMS.

Doctor Louis Levy, formerly of Nashville, is now associated with Doctor E. C. Ellett, of Memphis.

We regret to report the death of Mr. N. N. Pollard, father of Dr. T. G. Pollard, of Nashville.

Doctor Melbourne Clements, of Chattanooga, has recently been added to the staff of Erlanger Hospital.

Dr. A. L. Sharber, of Nashville, has returned from a six months' stay in Europe where he did post-graduate work in several of the larger continental hospitals.

Dr. M. N. Alexander, of Pleasant Shade, has purchased the residence and practice of Dr. C. H. Donoho, of Difficult. Dr. Donoho will locate in Carthage after July 1st.

Dr. C. A. Crunk, of Fayetteville, has recovered sufficiently from his recent illness to leave for Eastbrook Springs, where he will take up his duties as resident physician.

At the recent meeting of the State Board of Medical Examiners held in Nashville, the following officers were re-elected: President, Dr. E. E. Hunter, Elizabethton; Vice-President, Dr. W. H. Halbert, Nashville; Secretary and Treasurer, Dr. C. A. Abernathy, Pulaski.

Dr. T. O. Bratten, of Lebanon, President of the Wilson County Medical Society, was a pleasant visitor to the Journal office on the 21st. The doctor reports a feeling of good fellowship amongst the members and says he hopes soon to have every doctor in the county a member of the society.

Doctor Herman Spitz, of Nashville, left for Washington, June 9th, where he will do research work in the Division of Zoology. He will remain there three weeks and then go to Williamsburg, N. C., where he will be with Doctor Stiles, of the U. S. Marine Hospital. Upon his return to Nashville he will work as permanent assistant to Doctor William Litterer and Doctor Olin West.

The following Tennesseans were registered at the Atlantic City meeting of the A. M. A. Doctors Witherspoon, Haggard, Barr, W. A. Bryan, Altman, Litterer, McCabe, Hilliard Wood, Cullom, Savage, Cooke, and Bromberg, of Nashville; Doctors Petty, Krauss, Jelks, and Ellett, of Memphis; Doctors Newell and Steele, of Chattanooga; Dr. B. T. Nolen, of Franklin; Dr. T. R. Ray, of Shelbyville; and Doctors S. M. Miller, S. R. Miller and A. G. Kern, of Knoxville.

Tennessee was accorded most generous treatment in the distribution of its honors by the American Medical Association at the Atlantic City meeting. We publish elsewhere in this issue the full details of the election of Dr. Witherspoon, of Nashville, to the presidency, and we are pleased to note the selection of Dr. W. D. Haggard, of Nashville, to succeed Dr. Witherspoon on the Council on Medical Education.

Dr. Haggard was also honored by the Section

on Surgery in his selection to deliver the oration in Surgery at the next meeting in Minneapolis.

This honor we are glad to say came to Dr. Haggard without solicitation, and was a spontaneous tribute to his ability as recognized by those of his confreres best capable of judging him.

The University of Tennessee College of Medicine and School of Pharmacy held their annual commencement May 7 in the auditorium of the Goodwyn Institute, Memphis, Tenn., conferring the degree of Doctor of Medicine upon forty-eight graduates, and the degree of Pharmaceutical Chemist upon seven.

The address to the graduates was delivered by Prof. Seymour A. Mynders, President of the West Tennessee Normal College.

Dr. Brown Ayres, President of the University, delivered the charge to the respective graduating classes, and conferred the degrees. He expressed satisfaction with the year's progress of the College of Medicine, School of Pharmacy, and College of Dentistry, just completing their first year's work in the metropolis of the state, the greatest clinical center in the South, and therefore the ideal location for the College of Medicine. He hinted at plans for greatly increasing the facilities for the coming year. These plans materialized in the annual meeting of the Trustees of the University in the form of authorizing the erection of a modern laboratory building.

Work has already begun on this building, and the contractor promises that it will be available before the opening of the next session, September 25.

Additional full-time men were also provided for in the budget approved by the Board of Trustees.

MARRIAGES.

Miss Nina Baxter, daughter of Dr. R. G. Baxter, of Caney Springs, was married to Dr. Mark Davidson, of Lewisburg, June 12, at the bride's home.

The marriage of Dr. Jerome Logan Morgan, of Chattanooga, to Miss Rosalyn Foster, of Memphis, took place at the bride's home, June 12, 1912.

The wedding of Miss Mary Harrison, daughter of Dr. E. Harrison, to Dr. Dabney Minor, both of Nashville, took place at the McKendree Church, June 22.

COUNTY SOCIETY PROCEEDINGS.

JEFFERSON COUNTY.

The Jefferson County Medical Society held its regular meeting in the K. P. Hall at 10:00 a. m. Meeting was called to order by the president, Dr. W. L. Tadlock. Minutes of the last meeting were read and approved.

Dr. B. M. Tittsworth presented some interesting cases of tuberculosis as clinics which were discussed by Drs. Nash and Newman.

Papers presented were as follows:

"Croup," by Dr. W. E. Roberts.

"Membraneous Croup," by Dr. B. M. Tittsworth.

Extensive discussion followed by Drs. Huggins, Nash, Newman, Dukes, Brown and King.

The society adjourned to meet again at 1:00 o'clock.

AFTERNOON SESSION.

Meeting called to order at 1:00 p. m.

Dr. Walker finished discussion on the papers presented at the morning session. Dr. Nash gave a very interesting and instructive talk on "Pleuritic Effusion." Discussion by Drs. Duke and Newman.

Dr. R. H. Newman, of Knoxville, read a paper, by request, subject, "Burns," which was thoroughly discussed by Drs. Nash and Brown.

The following papers will be presented at the next meeting:

"Follicular Tonsillitis," by Dr. P. A. Tinsley.

"Broncho-Pneumonia," by Dr. N. M. Dukes.

"Constipation," by Dr. J. I. Huggins.

The names of Drs. J. R. Brinkley, D. J. McCartar, and T. L. McCartar were presented for membership.

Society adjourned.

W. L. TADLOCK, M. D., Pres.,

B. M. TITTSWORTH, M. D., Sec.

SUMNER COUNTY.

The Sumner County Medical Society met on June 5th with a large attendance, interesting programme and splendid discussions. Doc-

tors F. E. Hobdy, J. H. McNeil, L. E. Wheat and W. B. Dorris were added to the membership. The Society is doing good work and promises excellent results to the attending members.

WALTER DOTSON, Secretary.

MORGAN COUNTY.

The Morgan County Medical Society met on the seventh of June and heard an interesting paper and discussion. Dr. J. L. Morgan, of Petros, was elected a member. The members are very enthusiastic and we hope soon to have every reputable physician in Morgan County a member of our society.

W. E. GALLION, Secretary.

STATE MEMBERSHIP LIST.

THE TENNESSEE STATE MEDICAL ASSOCIATION.

A complete list of those who have paid Association dues for 1912 will be published in this and occasionally in succeeding numbers of the Journal. The list published below includes only those whose dues were received by the Treasurer up to July 1st. Errors in name or address should be reported to Secretary Bromberg at once to facilitate prompt correction.

This list, as published, constitutes the mailing list of the Journal, and any member failing to receive his Journal is requested to write for a duplicate copy. No name has been intentionally left off. If your name does not appear, be kind enough to notify the Secretary, so that he may make the correction.

MEMBERSHIP.

ANDERSON COUNTY.

Name	Address	County
Beasley, E. M.,	Coal Creek	Anderson
Carden, W. L.,	Andersonville	Anderson
Cox, Joe M.,	Edgemore	Anderson
Eblin, W. E.,	Wind Rock	Anderson
Ford, E. H.,	Coal Creek	Anderson
Hall, S. B.,	Clinton	Anderson
Hicks, H. D.,	Clinton	Anderson
Jennings, Thos.,	Coal Creek	Anderson
Lambdin, L.,	Andersonville	Anderson
Lee, C. B.,	Scarborough	Anderson
Morgan, Carroll H.,	Briceville	Anderson
Richards, W. D.,	Briceville	Anderson
Taylor, J. S.,	Clinton	Anderson

BEDFORD COUNTY.

Coble, T. J.,	Shelbyville	Bedford
Dyer, J. H.,	Wartrace	Bedford
Frierson, W. G.,	Shelbyville	Bedford

BOOK REVIEWS.

PELLAGRA. By George M. Niles, M. D., Professor of Gastro-enterology and Therapeutics in the Atlanta School of Medicine, Atlanta, Ga. Octavo of 253 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1912. Cloth, \$3 net.

The volume contains an up-to-date presentation of the entire subject and every physician interested in Pellagra would do well to read it. The chapter on "Treatment" is worthy of study. J. M. K.

BOOKS RECEIVED AND REVIEWED.

PROGRESSIVE MEDICINE, a Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M. D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College, Philadelphia, assisted by Leighton F. Appleman, M. D., Instructor in Therapeutics, Jefferson Medical College, Philadelphia. Volume XIV, No. 2, June 1, 1912. Six dollars per annum. Lea & Febiger, Philadelphia.

Name	Address	County
Horton, G. E., Pres.,	Wartrace	Bedford
Myers, C. E.,	Unionville	Bedford
Moody, G. W.,	Shelbyville	Bedford
Moody, S. S.,	Shelbyville	Bedford
Orr, W. M.,	Shelbyville, R. F. D. 1.....	Bedford
Patton, E. W.,	Shelbyville	Bedford
Ray, T. R.,	Shelbyville.....	Bedford
Robinson, W. T.,	R. F. D. 7, Shelbyville....	Bedford
Reagor, F. B., Secy.,	Shelbyville	Bedford
Sharp, W. T.,	Shelbyville, R. F. D. 1.....	Bedford
Taylor, J. P.,	Haley	Bedford
Wood, T. H.,	Bellbuckle	Bedford
Fisher, R. J.,	Unionville, R. F. D.	Bedford

BLOUNT COUNTY.

McCulloch, J. A.,	Maryville	Blount
Hannum, M. M., Secy.,	Maryville	Blount
Ellis, E. L.,	Maryville	Blount
Gamble, A. M.,	Maryville	Blount
Blankenship, J. P.,	Maryville	Blount
Jenkins, L. J.,	Townsend	Blount
De Losier, E. D.,	Townsend	Blount

BRADLEY COUNTY.

Chambers, T. E. P., Secy.,	Cleveland	Bradley
Gates, B. F.,	Cleveland	Bradley
McKamy, T. J.,	Cleveland	Bradley
Ramsey, G. A.,	Cleveland	Bradley
Speck, C. R., Pres.,	Cleveland	Bradley

CAMPBELL COUNTY.

Brown, B. B.,	Elk Valley	Campbell
Brown, G. B.,	Elk Valley	Campbell
Gallagher, R. L.,	Careyville	Campbell
Irish, W. R.,	Jacksboro	Campbell
Lane, J. F.,	Wooldridge	Campbell
McClintock, F. A., Secy.,	Newcomb	Campbell

Name	Address	County
Newman, A. T., Jellico		Campbell
Queener, S. D., Jasboro		Campbell
Rose, J. L., Jellico		Campbell
Robbins, H. M., Jellico		Campbell
Scott, L. M., Pres., Jellico		Campbell
Smith, A., La Follette		Campbell
Snyder, S. B. Jellico		Campbell
Woodard, D. M., Pioneer		Campbell

CUMBERLAND COUNTY.

Lewis, V. L., Pres., Crossville	Cumberland
McCamy, W. R., Crab Orchard	Cumberland
McClarney, A. J., Crossville	Cumberland
Mitchell, E. W., Crossville	Cumberland

DAVIDSON COUNTY.

Altman, J. T., Eve Bldg., Nashville.....	Davidson
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Bryan, O. N., 146 8th Ave., N., Nash- ville	Davidson
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Buckner, M. G., Jackson Bldg., Nashville...	Davidson
Buist, W. E., 213 8th Ave., N., Nashville...	Davidson
Burch, L. E., 120 8th Ave., N., Nashville...	Davidson
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Goodwin, J. D., 1012 1st Natl. Bank Bldg., Nashville		Davidson
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Guerin, H. C., 2004 20th Ave., S., Nash- ville		Davidson
Haggard, W. D., 148 8th Ave., N., Nash- ville		Davidson
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Hatcher, G. E., Cent. Hosp. for Insane, Nashville		Davidson
Head, F. F., West Nashville.....		Davidson

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Hill, C. L., Edgar Jones Ave., Nashville....	Davidson	Robertson, C. A., 151 8th Ave., N., Nash- ville	Davidson		
Hollabaugh, A. N., 801 5th Ave., S., Nashville	Davidson	Roberts, E. L., 131 8th Ave., N., Nash- ville	Davidson		
Hubbard, G. W., 112 Maple St., Nashville....	Davidson	Robinson, W. P., 61 Lindsley Ave., Nash- ville	Davidson		
Hudson, Alberto, Mt. Eagle.....	Davidson	Rogers, Olin, 415½ Nashville.....	Davidson		
Hutchinson, W. G., Eve Bldg., Nashville....	Davidson	Sharber, A. L., 142 7th Ave., N., Nash- ville	Davidson		
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Jones, R. L., 151 8th Ave., N., Nashville...	Davidson	Savage, G. C., 139 8th Ave., N., Nashville...	Davidson		
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Leonard, N. C., Eve Bldg., Nashville.....	Davidson	Stevens, Jno. W., R. F. D. 1, Nashville....	Davidson		
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McC Campbell, W. E., 6th and Woodland Sts., Nashville	Davidson	Sumpter, W. D., 131 8th Ave., N., Nash- ville	Davidson		
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Morrison, W. J., 8th Ave. and Commerce, Nashville	Davidson	Weaver, Thos., Jackson Bldg., Nashville....	Davidson		
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Nichol, A. G., Jackson Bldg., Nashville.....	Davidson	White, Gordon, 610½ Church St., Nash- ville	Davidson		
Noel, L. G., 529½ Church St., Nashville....	Davidson	Wilson, O. H., Eve Bldg., Nashville.....	Davidson		
O'Callahan, W. J., Post Office, Nashville...	Davidson	Witherspoon, Jack, 150 8th Ave., N., Nash- ville	Davidson		
Overton, John, 120 8th Ave., N., Nashville..	Davidson	Witt, W. H., Worthington Flats, Nash- ville	Davidson		
Oughterson, W. A., 135 8th Ave., N., Nashville	Davidson	Wood, T. Hilliard, 1st Natl. Bank Bldg., Nashville	Davidson		
Owsley, J. Q., 420½ Union St., Nash- ville	Davidson				
Omohundro, O. C., 1705 West End Ave., Nashville	Davidson				
Padgett, Hazle, Hitchcock Bldg., Nash- ville	Davidson				
Pickens, D. R., 135 8th Ave., N., Nash- ville	Davidson				
Plunkett, J. D., 701½ Church St., Nash- ville	Davidson				
Pollard, T. G., 135 8th Ave., N., Nash- ville	Davidson				
Price, Geo. H., 146 8th Ave., N., Nash- ville	Davidson				
Rash, B. J., 131 8th Ave., N., Nashville....	Davidson				

DICKSON COUNTY.

Name	Address	County
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Harper, T. M., Dickson.....	Dickson	Dickson
Scott, W. S., Dickson.....	Dickson	Dickson
Suggs, W. J., Pres., Dickson.....	Dickson	Dickson
Spencer, H. P., Dickson.....	Dickson	Dickson
Walker, W. W., Sec'y, Dickson.....	Dickson	Dickson
Weaver, H., Dickson.....	Dickson	Dickson

DYER COUNTY.

Austin, D. T., Bogota.....	Dyer
Berry, J. B., Dyersburg.....	Dyer
Brewer, J. D., Newbern.....	Dyer
Burke, R. A., Dyersburg.....	Dyer
Caldwell, T. W., Bogota.....	Dyer
Cherry, E. O., Newbern.....	Dyer
Dulaney, O., Sec'y, Dyersburg.....	Dyer
Edwards, Luther, Finley.....	Dyer
Ferguson, J. A., Dyersburg.....	Dyer
Flanary, D. L., Dyersburg.....	Dyer
Fowlkes, J. A., Dyersburg.....	Dyer
Green, J. H., Trimble.....	Dyer
Haskins, E. T., Newbern.....	Dyer
Hicks, H. E., Newbern.....	Dyer
Holland, W. W., Dyersburg.....	Dyer
Hornbrook, J. T., Dyersburg.....	Dyer
McDavid, Paul, Minglewood.....	Dyer
Moody, A. H., Dyersburg.....	Dyer
Murph, R. L., Dyersburg.....	Dyer
Nash, C. T., R. F. D. 1, Dyersburg.....	Dyer
Rawles, E. L., Dyersburg.....	Dyer
Rawles, I. N., Dyersburg.....	Dyer
Sullivan, W. O., R. F. D. 5, Dyersburg.....	Dyer
Price, J. D., Dyersburg.....	Dyer
Turner, C. A., Dyersburg.....	Dyer
Walker, N. S., Dyersburg.....	Dyer
Walker, T. J., Dyersburg.....	Dyer
Watson, W. P., Dyersburg.....	Dyer
Williamson, Edd., Finley.....	Dyer
Wynne, J. W., Newbern.....	Dyer

GIBSON COUNTY.

Bennett, B. T., Trenton.....	Gibson
Bryant, A. J., Bradford.....	Gibson
Caldwell, B. D., Milan.....	Gibson
Clopton, A. T., Milan.....	Gibson
Cochran, T. N., Trenton.....	Gibson
Dodds, G. W., Trenton.....	Gibson
Faucett, J. T., Trenton.....	Gibson
Hunt, R. H., Humboldt.....	Gibson
Koffman, J. N., R. F. D., Trenton.....	Gibson
McRee, W. C., Sec'y, Trenton.....	Gibson
Moore, J. C., Trenton.....	Gibson
Medling, W. L., Dyer.....	Gibson
Matthews, E. C., Trenton.....	Gibson
Penn., B. S., Pres., Humboldt.....	Gibson
Penn., G. W., Humboldt.....	Gibson
Preston, J. H., Humboldt.....	Gibson

Name	Address	County
Preston, W. F.,	Humboldt.....	Gibson
Oliver, G. W.,	Medina.....	Gibson
Rozelle, J. H.,	Gibson.....	Gibson
Thompson, Sidney,	Humboldt.....	Gibson
Wyatt, F. E.,	Yorkville.....	Gibson
Tyree, C. E.,	Trenton.....	Gibson

GILES COUNTY.

Abernathy, C. A., Pulaski.....	Giles
Abernathy, W. D., Pulaski.....	Giles
Allen, A. M., Buford Station.....	Giles
Baugh, Jno. C., Elkton.....	Giles
Baugh, W. P., Elkton.....	Giles
Blackburn, Jas. K., Pulaski.....	Giles
Butler, Geo. D., Pulaski.....	Giles
Copeland, W. F., Campbellsville.....	Giles
Dean, Allen W., Brick Church.....	Giles
Freeman, E. C., Pulaski.....	Giles
Grimes, G. C., Bodenham.....	Giles
Harris, Jno. S., Minor Hill.....	Giles
Herbert, Robt. N., Aspen Hill.....	Giles
Lancaster, A. J., R. F. D., Pulaski.....	Giles
Lancaster, Geo. W., R. F. D., Pulaski.....	Giles
LaRue, Jas. A., Pulaski.....	Giles
May, J. P., Pres., Aspen Hill.....	Giles
Neal, J. H., Wales Station.....	Giles
Sumpter, E. R., Pulaski.....	Giles
Waters, Guy S., Stella.....	Giles
Woodard, B. H., Elkton.....	Giles
Wright, C. R., Pulaski.....	Giles

GREEN COUNTY.

Britton, F. C., Greeneville, R. F. D. 9.....	Green
Brumley, S. T., Greeneville, R. F. D.....	Green
Bailey, G. N., Baileyton.....	Green
Bright, W. M., Rheatown.....	Green
Brown, I. B., Mosheim, R. F. D.....	Green
Borden, H. S., Greeneville, R. F. D. 2.....	Green
Bell, Jas. B., Pres., Greeneville, R. F. D. 2.....	Green
Blanton, M. A., Secy., Baileyton, R. F. D. 1....	Green
Campbell, J. D., Greeneville.....	Green
Cloyd, J. W., Mosheim.....	Green
Cloyd, Thos. D., Mosheim.....	Green
Everhart, M. P., Wanensburg.....	Green
Fox, C. P., Greeneville.....	Green
Hays, G. S., Greeneville.....	Green
Hawkins, W. H., Greeneville.....	Green
Huffaker, R. O., Chucky City.....	Green
Hughes, T. B., Jeraldstown.....	Green
Holt, J. S., Midway.....	Green
Jeffers, E. A., Baileyton.....	Green
Jeffers, W. L., Baileyton.....	Green
McClellan, J. H., Afton.....	Green
Myers, E. M., Bulls Gap.....	Green
Price, M. G., Mosheim.....	Green
Ruble, H. H., Greeneville.....	Green
Simpson, H. A., Baileyton, R. F. D.....	Green
Taylor, Wm. B., Greeneville.....	Green
Taylor, H. M., Greeneville.....	Green

Name	Address	County	Name	Address	County
Weems, D. D.,	Greeneville.....	Green	Cunningham, J. C.,	Hixson.....	Hamilton
Woolsey, Thos. H.,	Greeneville, R. F. D.....	Green	Davis, K. D.,	Weihl Bldg., Chattanooga....	Hamilton
Wilhoit, J. S. J.,	Afton, R. F. D.....	Green	Davis, M. D.,	Weihl Bldg., Chattanooga....	Hamilton
Woodyard, S. W.,	Greeneville.....	Green	Deakins, B. A.,	East Chattanooga.....	Hamilton
HAMBLÉN COUNTY.			Dietrich, W. A.,	Temple Court, Chattanooga	Hamilton
Bales, Thos. E.,	Pres., Morristown.....	Hamblen	Dye, J. S.,	5 East 8th St., Chattanooga....	Hamilton
Brown, J. H.,	Talbots.....	Hamblen	Eblen, Thos. N.,	Tyner.....	Hamilton
Cass, H. M.,	Morristown.....	Hamblen	Ellis, C. C.,	Central Block, Chattanooga....	Hamilton
Henderson, P. L.,	Morristown.....	Hamblen	Ellis, G. M.,	211 E. 8th St., Chattanooga....	Hamilton
Howell, W. E.,	Sec'y., Morristown.....	Hamblen	Fancher, H. L.,	James Bldg., Chattanooga..	Hamilton
Johnson, T. J.,	Morristown.....	Hamblen	Fletcher, H. Q.,	James Bldg., Chattanooga..	Hamilton
Manard, J. J.,	Morristown.....	Hamblen	Fowler, S. A.,	1100 Whiteside St., Chattanooga	Hamilton
Milligan, L. H.,	Morristown.....	Hamblen	Gee, J. J.,	Loveman Bldg., Chattanooga....	Hamilton
Painter, F. F.,	Morristown.....	Hamblen	Gentry, J. A.,	Times Bldg., Chattanooga....	Hamilton
Pangle, H. G.,	Russellville.....	Hamblen	Gibbs, Vaulx,	831½ Market St., Chattanooga	Hamilton
Ruble, W. G.,	Morristown.....	Hamblen	Goodwin, J. L.,	211 E. 8th St., Chattanooga	Hamilton
Ryburn, S. M.,	Morristown.....	Hamblen	Graham, C. G.,	Flatiron Bldg., Chattanooga	Hamilton
Shields, D. E.,	Morristown.....	Hamblen	Green, Jas. E.,	276½ E. Main St., Chattanooga	Hamilton
HAMILTON COUNTY.			Griffith, Chas.	South Pittsburg.....	Hamilton
Abernathy, Thos. E.,	Bates Block, Chattanooga	Hamilton	Gurney, Chas. H.,	Rossville, Ga.....	Hamilton
Abernathy, Y. L.,	206 Walnut St., Chattanooga	Hamilton	Hale, B. C.,	Guild.....	Hamilton
Allen, Benj. G.,	211 East 8th St., Chattanooga	Hamilton	Hanna, J. E.,	500 E. 9th St., Chattanooga	Hamilton
Anderson, E. B.,	over 739 Market St., Chattanooga	Hamilton	Haskins, J. B.,	211 E. 8th St., Chattanooga	Hamilton
Anderson, E. C.,	Highland Park Station, Chattanooga	Hamilton	Haywood, O. M.,	16 McCallie Ave., Chattanooga	Hamilton
Anderson, W. E.,	James Bldg., Chattanooga	Hamilton	Hill, A. F.,	Mt. Junction, Chattanooga....	Hamilton
Atlee, Jas. H.,	219 Oak St., Chattanooga....	Hamilton	Hogshead, J. M.,	602 Georgia Ave., Chattanooga	Hamilton
Banks, W. A.,	313 Chamberlain Ave., Chattanooga	Hamilton	Holman, J. H.,	Chattanooga.....	Hamilton
Barker, H. M.,	Alton Park.....	Hamilton	Holtzclaw, C.,	213 E. 8th St., Chattanooga....	Hamilton
Barrett, S. H.,	City Hall, Chattanooga....	Hamilton	Hope, W. T.,	101½ E. 8th St., Chattanooga..	Hamilton
Bell, Jas. T.,	Daisy, Tenn.....	Hamilton	Horton, J. W.,	James Bldg., Chattanooga....	Hamilton
Berlin, Henry,	110 McCallie Ave., Chattanooga	Hamilton	Hughes, O. G.,	Ooltewah.....	Hamilton
Blackwell, O. L.,	Worley.....	Hamilton	James, Thos. L.,	Orme.....	Hamilton
Bogart, W. G.,	518 Georgia Ave., Chattanooga	Hamilton	Johnson, Jos. W.,	James Bldg., Chattanooga	Hamilton
Bogart, W. M.,	Hill City, Tenn.....	Hamilton	Johnson, E. C.,	213 E. 8th St., Chattanooga	Hamilton
Boyd, A. W.,	Loveman Bldg., Chattanooga..	Hamilton	Lacy, J. E.,	Chattanooga.....	Hamilton
Brooks, J. C.,	Over Voight's Drug Store Chattanooga	Hamilton	Larimore, H. P.,	Secy., Bates Block, Chattanooga	Hamilton
Broyles, A. C.,	Daisy.....	Hamilton	Lee, R. W.,	1101 Whiteside St., Chattanooga	Hamilton
Broyles, J. N.,	East Lake.....	Hamilton	Macquillan, J. W.,	over 600 Market St., Chattanooga	Hamilton
Byrd, E. H.,	East Chattanooga.....	Hamilton	Martin, C. R.,	"The Highlands," Chattanooga	Hamilton
Calhoun, Jno. D.,	Guild.....	Hamilton	McGhee, John B.,	222½ E. Main St., Chattanooga	Hamilton
Cheney, W. H.,	13 E. 8th St., Chattanooga..	Hamilton	McManus, W. F.,	826 Market St., Chattanooga	Hamilton
Cleary, A. D.,	602 Georgia Ave., Chattanooga	Hamilton			
Clements, Melbourne,	Flat Iron Bldg., Chattanooga	Hamilton			
Colmore, R. M.,	826 Market St., Chattanooga	Hamilton			

Name	Address	County
Meacham, M. A., Loveman Bldg., Chattanooga		Hamilton
Minter, N. J., Chattanooga.....		Hamilton
Morris, D. C., Cor. Market and Main Sts., Chattanooga		Hamilton
Newell, E. T., Walnut St., Chattanooga....		Hamilton
Newell, E. D., Walnut St., Chattanooga....		Hamilton
Nefe, A. A., Lookout Mountain, Chattanooga		Hamilton
Null, H. O., Ridgedale.....		Hamilton
Partridge, Jas., Loveman Bldg., Chattanooga		Hamilton
Rathmell, J. R., Hamilton Nat'l Bank Bldg., Chattanooga		Hamilton
Reisman, E. E., 5 E. 8th St., Chattanooga...		Hamilton
Richardson, R. M., 602 Georgia Ave., Richmond, Jos. A., Harrison.....		Hamilton
Ryan, Geo. F., 426 Market St., Chattanooga		Hamilton
Selden, J. M., Note Bank Bldg., Chattanooga		Hamilton
Sims, P. D., City Hall, Chattanooga.....		Hamilton
Spradling, L. W., 916 Carr St., Chattanooga		Hamilton
Stapp, Fred B., 9½ E. 8th St., Chattanooga		Hamilton
Steele, Jno. B., James Bldg., Chattanooga...		Hamilton
Stem, L. T., East Lake, Tenn.....		Hamilton
Sullivan, Bayard, 5 E. 9th St., Chattanooga..		Hamilton
Steele, N. C., Hamilton Nat'l Bank Bldg., Chattanooga		Hamilton
Steele, Willard, Hamilton Nat'l Bank Bldg., Chattanooga		Hamilton
Smith, F. T., 826 Market St., Chattanooga...		Hamilton
Tatum, R. H., 826 Market St., Chattanooga		Hamilton
Taylor, J. H., Hamilton Nat'l Bank Bldg., Chattanooga		Hamilton
Travis, B. F., James Bldg., Chattanooga....		Hamilton
Vigle, Jno. B., care "The Highlands," Chattanooga		Hamilton
Wagner, M. M., "The Highlands," Chattanooga		Hamilton
Wallace, Raymond, "The Elizabeth," Chattanooga		Hamilton
Waite, M., 223 E. 8th St., Chattanooga....		Hamilton
Wert, B. S., 5 E. 8th St., Chattanooga.....		Hamilton
West, Geo. R., 10 W. 8th St., Chattanooga..		Hamilton
Williams, G. V., 224½ E. Main St., Chattanooga		Hamilton
Williamson, L. C., East Lake.....		Hamilton
Wilson, H. B., James Bldg., Chattanooga...		Hamilton
Wise, E. B., over 739 Market St., Chattanooga		Hamilton
Wood, F. L., 224½ E. Main St., Chattanooga		Hamilton
Woolford, J. S. B., "The Highland," Chattanooga		Hamilton
Woolner, A. B., Temple Court Bldg., Chattanooga		Hamilton

Name	Address	County
Wylie, C. B., Bates Block, Chattanooga.....		Hamilton
Yarnell, S. I., Loveman Bldg., Chattanooga..		Hamilton
Zeigler, T. J., East Chattanooga.....		Hamilton

HARDEMAN COUNTY.

Boals, J. A., Whiteville.....	Hardeman
Black, A. E., Toone.....	Hardeman
Boyette, W. L., Whiteville.....	Hardeman
Curry, G. B., Toone.....	Hardeman
Dorris, H. E., Bolivar.....	Hardeman
Frost, C. L., Middleton.....	Hardeman
Goddard, W. L., Saulsbury.....	Hardeman
McDiel, J. E., Hickory Valley.....	Hardeman
Milstead, H. W., Bolivar.....	Hardeman
Neely, J. J., Bolivar.....	Hardeman
Patten, E. A., Pocohontas.....	Hardeman
Stewart, Walter, Bolivar.....	Hardeman
Sassar, J. D., Sr., Pres., Middleton.....	Hardeman
Siler, W. H., Toone.....	Hardeman
Tate, Robt. W., Sec'y, Bolivar.....	Hardeman

HAYWOOD COUNTY.

Allen, Jno. T., Brownsville.....	Haywood
Dickson, A. C., Brownsville, R. F. D.....	Haywood
Edwards, Jos. L., Sec'y, Brownsville.....	Haywood
Heard, F. C., Brownsville, R. F. D.....	Haywood
Marr, B. G., Maury City.....	Haywood
Mulherron, G. G., Brownsville.....	Haywood
Norvelle, J. C., Brownsville.....	Haywood
Patton, J. S., Pres., Brownsville.....	Haywood
Poston, W. D., Brownsville.....	Haywood
Royster, G. M., Brownsville.....	Haywood
Sorrell, A. H., Brownsville.....	Haywood
Sevier, A. H., Brownsville.....	Haywood
Warren, J. W., R. F. D. 4, Halls.....	Haywood
Whitelaw, W. H., Brownsville.....	Haywood
Wilkerson, J. B., Stanton.....	Haywood

HENDERSON COUNTY.

Arnold, J. M., Lexington.....	Henderson
Bolen, C. E., Wildersville.....	Henderson
Boyd, M. P., R. F. D., Yuma.....	Henderson
Brandon, G. A., Lexington.....	Henderson
Davidson, R. H., Lexington	Henderson
England, J. H., Luray.....	Henderson
Fismire, O. W., Huron.....	Henderson
Hendricks, J. W., R. F. D., Darden.....	Henderson
Huntsman, W. F., Sec'y, Lexington.....	Henderson
Johnston, C. H., Lexington.....	Henderson
Keeton, J. T., Sardis.....	Henderson
Keeton, W. B., Scott's Hill.....	Henderson
Milum, R. H., Chesterfield.....	Henderson
Parker, S. T., Pres., Lexington.....	Henderson
Watson, W. T., Lexington.....	Henderson
Wyley, R. L., Scott's Hill.....	Henderson

HENRY COUNTY.

Name	Address	County
Abernathy, G. T., Paris.....		Henry
Freeman, J. T., Big Sandy.....		Henry
Grainger, R. A., Paris.....		Henry
McSwain, J. H., Sec'y, Paris.....		Henry
McSwain, O. A., Paris.....		Henry
Platkin, Edward, Eva.....		Henry
Perry, R. J., Springville.....		Henry
Rodgers, C. W., Pres., Como.....		Henry

HICKMAN COUNTY.

Beasley, Jno. S., Centreville.....	Hickman
Beasley, R. P., Sec'y, Pinewood.....	Hickman
Edwards, W. K., Centreville.....	Hickman
Stephenson, C. S., Centreville.....	Hickman
Stephenson, C. V., Centreville.....	Hickman
Sutton, K. I., Centreville.....	Hickman
Thompson, J. W., Centreville.....	Hickman

HUMPHREYS COUNTY.

Binkley, D. C. K., Hustburg.....	Humphreys
Carmen, M. C., Bold Springs.....	Humphreys
Cooley, J. T., Waverly.....	Humphreys
Daniel, W. H., Sec'y, McEwen.....	Humphreys
Gould, H. F., Pres., Hustburg.....	Humphreys
Horner, W. B., Plant.....	Humphreys
Slayden, W. W., Waverly.....	Humphreys
Smith, J. N., Cuba Landing.....	Humphreys
Sugg, J. A., McEwen.....	Humphreys

JACKSON COUNTY.

Clark, Frank, Haydensburg.....	Jackson
Draper, Atha, R. R. 2, Gainesboro.....	Jackson
Fowler, S. B., Gainesboro.....	Jackson
Hix, J. B., Flynns Lick.....	Jackson
Loftis, H. P., Pres., Gainesboro.....	Jackson
Mabry, E. W., Sec'y, Gainesboro.....	Jackson
McCain, N. M., Gainesboro.....	Jackson
Quarles, J. D., Whitleyville.....	Jackson
Reeves, C. E., Gainesboro.....	Jackson

JEFFERSON COUNTY.

Anderson, J. C., Dandridge.....	Jefferson
Cline, B. E., Strawberry Plains.....	Jefferson
Dukes, N. M., Strawberry Plains.....	Jefferson
Ferguson, M. W., New Market.....	Jefferson
French, T. R., Dandridge.....	Jefferson
Huggins, J. I., Dandridge.....	Jefferson
King, W. F., Jefferson City.....	Jefferson
Roberts, W. E., Talbotts.....	Jefferson
Tadlock, W. L., Pres., Talbotts.....	Jefferson
Tittsworth, B. M., Sec'y., Jefferson City.....	Jefferson
Tinsley, P. A., Dandridge.....	Jefferson
Tar, H. L., Jefferson City.....	Jefferson
Walker, Jas. H., White Pine.....	Jefferson

KNOX COUNTY.

Name	Address	County
Acuff, P. H., Care Stratford Hotel.....		Knox
Acuff, S. D., 1314 Central Ave., Knoxville....		Knox
Alla, Hugh W., Cherokee Bldg., Knoxville....		Knox
Atchley, W. P., Empire Bldg., Knoxville.....		Knox
Armstrong, W. H., Rogersville.....		Knox
Austin, W. S., Knoxville, Box 5521.....		Knox
Alexander, Eben, Box 563, Knoxville.....		Knox
Baker, B. G., Empire Bldg., Knoxville.....		Knox
Booker, G. W., The Oxford, Knoxville.....		Knox
Bosworth, B. D., W. Church Ave., Knoxville...		Knox
Bowen, Wm., Broad & Central, Knoxville....		Knox
Boyd, S. B., Box 115, Knoxville.....		Knox
Campbell, Michael, Lyonsview, Knoxville.....		Knox
Carmichael, C. J., Walnut St., Knoxville.....		Knox
Carmichael, J. W., Walnut St., Knoxville.....		Knox
Casenburg, S. F., McTannen Bldg., Knoxville...		Knox
Cates, B. B., 508 W. Clinch Ave., Knoxville...		Knox
Catlett, W. A., 205-207 McTownlee Bldg., Knoxville		Knox
Cochran, W. R., 721 Walnut St., Knoxville....		Knox
Copenhaver, M. M., Lonsdale.....		Knox
Christenbery, H. E., Lonsdale.....		Knox
Culliman, John, Jr., W. Church Ave., Knox- ville		Knox
Depree, R. V., Medical College, Knoxville.....		Knox
Davis, Chas. Huff, Box 674, Knoxville.....		Knox
Deaderick, Chalmers, 501 W. Church Ave., Knoxville		Knox
DeArmond, C. C., South Knoxville.....		Knox
Drake, C. M., 410 W. Church St., Knoxville...		Knox
Frayser, B. H., 10 Fouche Bldg., Knoxville....		Knox
Fritzgerald, T. E., R. F. D. 1, Knoxville.....		Knox
Gillen, Chas. A., Cherokee Bldg., Knoxville....		Knox
Garrison, A. R., Byington.....		Knox
Greer, W. A., Ledgewick Bldg., Knoxville.....		Knox
Haun, L. A., 419 W. Church Ave., Knoxville...		Knox
Henderson, C. H., Lonsdale.....		Knox
Hill, O. W., Cherokee Bldg., Knoxville.....		Knox
Holloway, V. D., 609 Walnut St., Knoxville....		Knox
Howard, P. T., Westbourne.....		Knox
Jones, E. L., Ledgewick Bldg., Knoxville.....		Knox
Jones, T. R., Walnut St., Knoxville.....		Knox
Jones, C. B., Box 139, Knoxville.....		Knox
Kelso, H. J., 425 W. Church Ave., Knoxville...		Knox
Kabler, W. F., Bristol.....		Knox
Kennedy, J. M., N. Central, Knoxville.....		Knox
Kern, A. G., Box 405, Knoxville.....		Knox
Kincaid, J. H., 421 W. Church Ave., Knoxville..		Knox
Kyle, A. G., Deaderick Bldg., Knoxville.....		Knox
Luttrell, Walter, 504 Asylum, Knoxville.....		Knox
Lones, C. E., McTownlee Bldg., Knoxville.....		Knox
Lynn, W. N., L. M. Hospital, Knoxville.....		Knox
McCampbell, H. H., 614 Walnut St., Knox- ville		Knox
McCown, R. M., W. Church Ave., Knoxville...		Knox
McNabb, C. P., 904 S. Gay St., Knoxville.....		Knox
McReynolds, R. L., Austin Bldg., Knoxville....		Knox
Miller, J. E., Rogersville.....		Knox

Name	Address	County
Miller, S. M., 209 W. Church Ave., Knoxville...		Knox
Miller, S. R., Box 743, Knoxville.....		Knox
Miller, T. P., 609 Walnut St., Knoxville.....		Knox
Newell, M. E., Williams St., Knoxville.....		Knox
Newman, R. H., 406 W. Church Ave., Knoxville		Knox
Oakes, H. S., Care Med. College, Knoxville....		Knox
Oppenheimer, A. P., Knoxville.....		Knox
Peters, H. S., "Lyonsview," Knoxville.....		Knox
Peters, S. B., Knoxville.....		Knox
Potter, W. W., 1320 E. 5th Ave., Knoxville....		Knox
Richmond, W. D., Empire Bldg., Knoxville....		Knox
Ristine, C. E., McNutt Bldg., Knoxville.....		Knox
Rule, A. L., Box 612, Knoxville.....		Knox
Rogers, K. E., Cherokee Bldg., Knoxville.....		Knox
Rogers, J. W., Sevierville.....		Knox
Sawyers, Jas., McTownlee Bldg., Knoxville....		Knox
Sheddan, L. L., 423 W. Church Ave., Knoxville		Knox
Sisk, J. A., Empire Bldg., Knoxville.....		Knox
Swaney, O. M., Treadway.....		Knox
Tillery, J. P., 419 W. Church Ave., Knoxville		Knox
Vance, W. K., Bristol.....		Knox
Wallace, W. L., N. Broadway, Knoxville.....		Knox
West, J. Q. A., Arnstein Bldg., Knoxville.....		Knox
West, W. J., Empire Bldg., Knoxville.....		Knox
White, W. H. L., Young Bldg., Knoxville.....		Knox
Wilder, Dora Lee, R. F. D., 1, Knoxville.....		Knox
Williams, D. H., 613 Walnut St., Knoxville....		Knox
Young, B. F., Box 633, Knoxville.....		Knox
Zemp, E. R., Box 349, Knoxville.....		Knox

LAKE COUNTY.

Adams, Jno. D., Bessie.....	Lake
Alexander, W. S., Ridgely.....	Lake
Alexander, J. D., Sec'y., Tiptonville.....	Lake
Denton, W. H., Reelfoot.....	Lake
Griffin, J. T., Tiptonville.....	Lake
Griffin, R. B., Ridgely.....	Lake
Griffin, R. W., Tiptonville.....	Lake
Hellen, R. E., Ridgely.....	Lake
Janes, J. A., Wymburg.....	Lake
Kelty, E. T., Cronansville.....	Lake
Smith, A. P., Ridgely.....	Lake
Wright, J. M., Pres., Tiptonville.....	Lake

LINCOLN COUNTY.

Anderson, J. M., Fayetteville.....	Lincoln
Blair, E. K., Fayetteville.....	Lincoln
Brock, B. B., Blanchie.....	Lincoln
Bryant, J. D., R. F. D., 3, Fayetteville.....	Lincoln
Farrar, J. P., Fayetteville, R. F. D., No. 8....	Lincoln
Cannon, W. F., R. F. D. 5, Fayetteville.....	Lincoln
Cullum, J. M., Fayetteville.....	Lincoln
Forbes, E. C., Howell.....	Lincoln
Gilliam, L. H., Kelso.....	Lincoln
Goodrich, C. L., Fayetteville.....	Lincoln
Graham, J. T., Mulberry, R. F. D. No. 1.....	Lincoln

Name	Address	County
Holland, E. F., Mulberry.....		Lincoln
Joplin, W. S., Petersburg.....		Lincoln
Laws, H. A., Jr., Lynchburg.....		Lincoln
McClain, Geo. D., Boonshill.....		Lincoln
McRady, S. F., Petersburg.....		Lincoln
McWilliams, J. M., Fayetteville.....		Lincoln
Noblett, B. E., Pres., Fayetteville.....		Lincoln
Patrick, T. A., Sec'y., Fayetteville.....		Lincoln
Shelton, J. M., Kelso, R. F. D. No. 1.....		Lincoln
Sloan, J. E., Harms, R. F. D. No. 1.....		Lincoln
Summers, W. P., Harms, R. F. D. No. 1.....		Lincoln
Wyatt, J. M., Fayetteville.....		Lincoln
Yearwood, A. L., Fayetteville.....		Lincoln

LOUDON COUNTY.

Burditt, G. M., Lenoir City.....	Loudon
Brickell, W. O., Kizer	Loudon
Ehlin, J. G., Lenoir City.....	Loudon
Ellis, Milton, Friendsville.....	Loudon
Fout, W. T., Lenoir City.....	Loudon
Harrison, J. J., Loudon.....	Loudon
Harrison, W. H., Loudon.....	Loudon
Hickman, T. J., Sec'y., Lenoir City.....	Loudon
Leiper, J. T., Pres., Lenoir City.....	Loudon
Pagett, W. D., Lenoir City.....	Loudon

MADISON COUNTY.

Arnold, Jno. M., Jackson.....	Madison
Barbee, Jno. T., Jackson.....	Madison
Blackmon, Jno. A., Jackson.....	Madison
Brown, H. H., Jackson.....	Madison
Crook, J. L., Jackson.....	Madison
Crook, J. A., Jackson.....	Madison
Duckworth, W. C., Jackson.....	Madison
Dancy, A. B., Jackson.....	Madison
Gresham, J. W., Jackson.....	Madison
Greer, R. L., Norwood.....	Madison
Hawkins, Herman, Sec'y., Jackson.....	Madison
Hopper, J. D., Pres., Jackson.....	Madison
Hamilton, F. B., Jackson.....	Madison
Henderson, S. A., Jackson.....	Madison
Herron, J. T., Jackson.....	Madison
Jones, Jas. T., Jackson.....	Madison
Lusk, P. B., Jackson.....	Madison
Love, J. B., Denmark.....	Madison
Lockman, W. L., Medon.....	Madison
McClaran, J. W., Jackson.....	Madison
McCoy, Ambrose, Jackson.....	Madison
O'Connor, F. J., Jackson.....	Madison
Rochelle, W. F., Jackson.....	Madison
Saunders, W. G., Jackson.....	Madison
Smythe, Kelly, Spring Creek.....	Madison
Webb, L. L., Carroll.....	Madison
Williamson, Leon, Jackson.....	Madison

MARSHALL COUNTY.

Baxter, R. G., Caney Springs.....	Marshall
Carroll, J. D., Lewisburg.....	Marshall
Crunk, J. C., R. F. D., Lewisburg.....	Marshall

Name	Address	County	Name	Address	County
Dickey, C. W., Cornersville.....	Marshall		Center, H. E., Etowah.....	McMinn	
Dryden, D. M., Petersburg.....	Marshall		Creech, Richard, Englewood.....	McMinn	
Gault, F. H., Cornersville.....	Marshall		Foree, J. O., Athens.....	McMinn	
Jones, Alf, Cornersville.....	Marshall		Fronyberger, W. R., Pendergrast.....	McMinn	
Hardison, C. C., Lewisburg.....	Marshall		Kittrell, S. S., R. F. D., Englewood.....	McMinn	
Hardison, J. A., Pres., Lewisburg.....	Marshall		Moore, W. S., Sec'y., Athens.....	McMinn	
Hardison, S. T., Lewisburg.....	Marshall		Nichols, Jno. O., Etowah.....	McMinn	
Logan, T. R., Lewisburg.....	Marshall		Nankivell, Jas. R., Pres., Athens.....	McMinn	
Moffitt, S. A., Mooresville.....	Marshall		Proudfoot, Jas. L., Athens.....	McMinn	
Morton, J. W., Chapel Hill.....	Marshall		Staunton, G. W., Athens.....	McMinn	
Ransom, W. C., Farmington.....	Marshall		Shipley, Gus, Athens.....	McMinn	
Reed, T. E., Sec'y., Lewisburg.....	Marshall		Taylor, Henry F., Calhoun.....	McMinn	
Vaden, W. E., Rich Creek.....	Marshall		Vinsant, Chas. C., Etowah.....	McMinn	
White, Buford, Lewisburg.....	Marshall				
White, Garreth, Chapel Hill.....	Marshall				
Womaek, C. W., Lewisburg.....	Marshall				
Wysong, H. C., Chapel Hill.....	Marshall				

MAURY COUNTY.

Anderson, H. O., Williamsport.....	Maury
Beasley, M. A., Hampshire.....	Maury
Biddle, P. D., Columbia.....	Maury
Brown, T. B., R. F. D. 2, Columbia.....	Maury
Church, R. M., Williamsport.....	Maury
Cook, M. M., Sec'y., Santa Fe.....	Maury
Edwards, J. A., Columbia.....	Maury
Faucett, Paul H., Columbia.....	Maury
Forgey, C. A., Columbia.....	Maury
Hardin, Jas. O., (Vet.), Spring Hill.....	Maury
Hardison, T. J., Carters Creek.....	Maury
Harrison, W. B., (Vet.), Columbia.....	Maury
Haywood, J. L., Carters Creek.....	Maury
Horsley, A. S., Columbia.....	Maury
Jones, Jas. H., Columbia.....	Maury
Kittrell, W. H., Mt. Pleasant.....	Maury
Lentz, Jno. J., Dark Mill.....	Maury
Mangrum, H. T., R. F. D., 4, Columbia.....	Maury
Perry, R. S., Columbia.....	Maury
Martin, W. E., Columbia.....	Maury
Orr, Eugene, R. F. D. 1, Columbia.....	Maury
Pillow, Robert, Columbia.....	Maury
Porter, O. J., Columbia.....	Maury
Ragsdale, L. E., Williamsport.....	Maury
Sheddan, W. K., Columbia.....	Maury
Thomas, H. E., Pres., Columbia.....	Maury
Timmons, E. A., Columbia.....	Maury
Walker, M. W., Santa Fe.....	Maury
Webb, W. R., Hampshire.....	Maury
Wilkes, J. H., (Vet.), Columbia.....	Maury
Wilkes, J. W., Columbia.....	Maury
Williamson, J. G., Jr., Columbia.....	Maury
Williamson, J. G., Sr., Columbia.....	Maury

McMINN COUNTY.

Abel, W. J., Decaturville.....	McMinn
Basinger, Jno. L., Riceville.....	McMinn
Brendle, D. P., Englewood.....	McMinn
Buttrau, W. H., Niota.....	McMinn
Copenhagen, L. A., Englewood.....	McMinn

MONROE COUNTY.

Arrants, W. H., Sweetwater.....	Monroe
Barnes, L. L., Vonore.....	Monroe
Bagwell, B. W., Madisonville.....	Monroe
Davis, J. E., Sec'y., Sweetwater.....	Monroe
Hardin, J. H., Sweetwater.....	Monroe
McClain, W. A., Sweetwater.....	Monroe
Penland, S. N., Madisonville.....	Monroe
Roberts, T. M., Sweetwater.....	Monroe
Shearer, H. C., Madisonville.....	Monroe

MONTGOMERY COUNTY.

Brandau, Jno. W., Clarksville.....	Montgomery
Ferguson, R. T., R. F. D. 4, Clarksville....	Montgomery
Guerin, J. C., Slayden.....	Montgomery
Hughes, M. L., Clarksville.....	Montgomery
Hunt, I. E., New Providence.....	Montgomery
Macon, R. B., Clarksville.....	Montgomery
Marable, T. H., Clarksville.....	Montgomery
Morrison, J. C., Clarksville.....	Montgomery
McComas, I. B., New Providence.....	Montgomery
McFall, R. J., Erin.....	Montgomery
Neblett, L. L., Stayton.....	Montgomery
Neblett, S. E., Southside.....	Montgomery
Nesbitt, H. A., Cunningham.....	Montgomery
Runyon, R. J., Pres., Clarksville.....	Montgomery
Slayden, J. D., Clarksville.....	Montgomery
Vaughan, G. E., Clarksville.....	Montgomery
Webb, L. E., St. Bethlehem.....	Montgomery
Webb, Roy, Sec'y., St. Bethlehem.....	Montgomery
Young, W. H., Hamptons.....	Montgomery

MORGAN COUNTY.

Bird, A., Wartburg.....	Morgan
Cooper, Jno. L., Oakdall.....	Morgan
Gallion, W. E., Oakdale.....	Morgan
Jones, S. H., Sec'y., Sunbright.....	Morgan
Jones, J. L., Oakdale.....	Morgan

OBION COUNTY.

Blanton, M. A., Union City.....	Obion
Butler, H. T., Union City.....	Obion
Capps, J. M., Kenton.....	Obion

Name	Address	County
Carlton, J. D., Union City.....		Obion
Chandler, S. E., Minnick.....		Obion
Cunningham, J. P., Elbridge.....		Obion
Darnall, J. F., Pres., Obion.....		Obion
Glover, Ila, Troy.....		Obion
Havner, J. B., Troy.....		Obion
Howard, J. A., McConnell.....		Obion
Howard, W. A., Union City.....		Obion
Jernigan, V. J., Obion.....		Obion
Maddox, D. C., Terrell.....		Obion
Marshall, T. E., Union City.....		Obion
Matlock, P. N., Mason Hall.....		Obion
Paschal, J. B., Fulton, Ky.....		Obion
Pearce, D. M., Union City.....		Obion
Prather, D. J., Sec'y., Union City.....		Obion
Prather, P. W., Woodlawn Mills.....		Obion
Roberts, W. F., Troy.....		Obion
Roper, J. F., Union City.....		Obion
Reed, W. A., Union City.....		Obion
Sharp, J. B., Obion.....		Obion
Watson, F. W., Union City.....		Obion
Wells, J. J., Glass.....		Obion
White, E. H., Rives.....		Obion
Wright, J. L., Elbridge.....		Obion
Bertram, J. F., Manson.....		Obion

OVERTON COUNTY.

Breeding, W. M., Livingston.....	Overton
Capps, M. B., Livingston.....	Overton
Lansden, J. B., Livingston.....	Overton
McDonald, J. T., Monroe.....	Overton
Qualls, A. B., Sec'y., Livingston.....	Overton
Smith, J. E., Pres., Hilham.....	Overton

POLK COUNTY.

Akin, Elias Marion, Copperhill.....	Polk
Barnes, James Jackson, Copperhill.....	Polk
Copeland, W. J., Fetzerton.....	Polk
Geisler, Francis Oto, Sec'y., Isabella.....	Polk
Gilliam, William Young, Copperhill.....	Polk
Hyder, Robert Lee, Isabella.....	Polk
Kinsey, Fred M., Ducktown.....	Polk
Kinsey, Lucius E., Ducktown.....	Polk
Lewis, Albert W., Pres., Copperhill.....	Polk

PUTNAM COUNTY.

Adams J. O., Pres., Monterey.....	Putnam
Curtis, H. C., Algood.....	Putnam
Denton, Samuel, Buffalo Valley.....	Putnam
Ensor, L. D. J., Cookeville.....	Putnam
Farmer, W. S., Cookeville.....	Putnam
Officer W. C., Monterey.....	Putnam
Moore, J. T., Algood.....	Putnam
Sypert, W. E., Baxter.....	Putnam
Shipley, Z. L., Cookeville.....	Putnam
Smith, T. J., R. F. D., 1, Silver Point.....	Putnam
Storris, J. R., Cookeville.....	Putnam
Trapp, J. S., Sparta.....	Putnam
Ray, R. L., Monterey.....	Putnam

RHEA COUNTY.

Name	Address	County
Chadwick, P. C., Rhea.....		Rhea
Clack, J. M., Spring City.....		Rhea
Donaldson, Sam, Dayton.....		Rhea
Gillespie, J. R., Dayton.....		Rhea
Gross, A. W., Dayton.....		Rhea
Hager, J. F., Graysville.....		Rhea
Hammock, J. W., Graysville.....		Rhea
Johnson, G. E., R. F. D., 4, Dayton.....		Rhea
McDonald, W. P., Spring City.....		Rhea
McKenzie, Jas. L., Pres., Graysville.....		Rhea
Miller, R. C., Sec'y., Evansville.....		Rhea
Thomison, J. G., Dayton.....		Rhea
Thomison, W. F., Dayton.....		Rhea
Watkins, R. K., Spring City.....		Rhea

ROANE COUNTY.

Clack, J. M., Rockwood.....	Roane
Clack, W. S., Rockwood.....	Roane
Givan, G. C. G., Secy., Harriman.....	Roane
Goodwyn, J. B., Harriman.....	Roane
Hill, W. W., Harriman.....	Roane
Nelson, J. E., Rockwood.....	Roane
Roberts, John, Kingston.....	Roane
Sewell, J. A., Rockwood.....	Roane
Waller, J. J., Oliver Springs.....	Roane
Zirkle, G. P., Kingston.....	Roane

ROBERTSON COUNTY.

Connell, Jas. R., Adams.....	Robertson
Fyke, Benjamin F., Sec'y., Springfield.....	Robertson
Green, Jno. R., Springfield.....	Robertson
Hassell, T. H., Springfield.....	Robertson
Jones, Guy R., Orlinda.....	Robertson
Johnson, Turner L., Green Brier.....	Robertson
Mathews, Richard L., Springfield.....	Robertson
Moore, Jerome, E., (Honorary), Springfield.....	Robertson
Porter, William W., Springfield.....	Robertson
Ramer, D. W., Springfield, R. R. No 3.....	Robertson
Royster, William, Cedar Hill, R. R. No. 5.....	Robertson
Scott, Miles, Pres., Springfield, R. R. No. 9.....	Robertson
Walton, L. B., (Honorary), White House, R. R. No. 1.....	Robertson
Winters, W. W., Green Brier.....	Robertson
Woodard, F. M., Springfield.....	Robertson

RUTHERFORD COUNTY.

Bilbro, W. C., Murfreesboro.....	Rutherford
Campbell, V. S., Murfreesboro.....	Rutherford
Chadwick, W. E., Murfreesboro.....	Rutherford
Crosthwait, Geo. W., Florence.....	Rutherford
Duggan, S. B., Eagleville.....	Rutherford
Duggan, S. S., Eagleville.....	Rutherford
Engles, W. J., Smyrna.....	Rutherford
Earthman, V. K., Murfreesboro.....	Rutherford
Huff, D. C., Christiana.....	Rutherford
Goodloe, A. E., Murfreesboro.....	Rutherford

Name	Address	County
Jamison, A. J., Murfreesboro.....		Rutherford
Jones, Enoch H., Murfreesboro.....		Rutherford
Kelton, J. C., Lascassas.....		Rutherford
Murfree, M. B., Murfreesboro.....		Rutherford
Overall, Jas. C., Lascassas.....		Rutherford
Pitts, Rufus, Murfreesboro.....		Rutherford
Read, R. W., Murfreesboro.....		Rutherford
Rucker, Jas. J., Murfreesboro.....		Rutherford
Watkins, L. B., Cromwell, Ky.....		Rutherford
White, B. N., Murfreesboro.....		Rutherford
Yourcee, Wm. E., Readyville.....		Rutherford

SCOTT COUNTY.

Boyatt, F. M., Oneida.....	Scott
Foster, J. I., Huntsville.....	Scott
Phillips, T. L., Pres., Newland.....	Scott
Shields, J. A. P., Secy., Norma.....	Scott
Thompson, M. E., Laxton.....	Scott

SEVIER COUNTY.

Isham, A. I., Sevierville.....	Sevier
Flanigan, S. W., Sevierville.....	Sevier
DeLosier, J. B., Sevierville.....	Sevier
Walker, P. E., Sevierville.....	Sevier
Ingle, R. J., Sevierville.....	Sevier
Rogers, J. W., Sevierville.....	Sevier
Ogle, J. W., Sevierville.....	Sevier
McGahhey, Jos., Sevierville.....	Sevier

SHELBY COUNTY.

Abernathy, Shields, Central Bank Bldg., Memphis.....	Shelby
Ayers, J. C., 2138 Union Ave., Mempphis.....	Shelby
Andrews, J. L., Rogers Bldg., Memphis.....	Shelby
Anderson, W. S., Memphis Trust Bldg., Mem- phis	Shelby
Anderson, P. H., Tenn. Trust Bldg., Memphis.....	Shelby
Armistead, H. S., Walker & Ryburn Sts., Mem- phis	Shelby
Branch, B. L., Collierville.....	Shelby
Blackburn, E. C., Randolph Bldg., Memphis.....	Shelby
Berry, H. L., Randolph Bldg., Memphis.....	Shelby
Beaty, H. W., Central Bank Bldg., Memphis.....	Shelby
Bridger, Jas. D., Memphis Trust Bldg., Memphis.....	Shelby
Beauchamp, Jesse L., 781 N. 6th St., Memphis.....	Shelby
Barton, Jas. L., 78 S. Main St., Memphis.....	Shelby
Biggs, J. M., Memphis Trust Bldg., Memphis.....	Shelby
Bretz, R. B., Exchange Bldg., Memphis.....	Shelby
Brewer, W. A., Exchange Bldg., Memphis.....	Shelby
Bretz, W. D., Exchange Bldg., Memphis.....	Shelby
Brinson, S. N., 201 Cooper Ave., Memphis.....	Shelby
Burns, W. B., Porter Bldg., Memphis.....	Shelby
Black, W. T., Randolph Bldg., Memphis.....	Shelby
Braum, Wm. T., 814 Exchange Bldg., Memphis.....	Shelby
Bearden, M. L., Central Bank Bldg., Memphis.....	Shelby
Baldwin, W. H., 4 Gay Street, Memphis.....	Shelby
Bell, Jno. C., 534 N. 2nd., Memphis.....	Shelby
Buford, G. C., Randolph Bldg., Memphis.....	Shelby
Beck, C. M., Coahoma, Miss.....	Shelby
Bell, C. A., Lee Bldg., Memphis.....	Shelby

Name	Address	County
Collier, Casa, Tenn. Trust Bldg., Memphis.....		Shelby
Cox, W. R., Tenn. Trust Bldg., Memphis		Shelby
Chaffee, F. R., Lucy.....		Shelby
Crisler, J. A., Peabody Hotel, Memphis.....		Shelby
Carter, J. Hugh, Tenn. Trust Bldg., Memphis.....		Shelby
Cullings, Jesse J., 83 W. Jackson Bldg., Memphis.....		Shelby
Crutcher, J. R., 1411 Madison Ave., Memphis.....		Shelby
Crofford, T. J., 211 3rd St., Memphis.....		Shelby
Campbell, W. C., Memphis Trust Bldg., Mem- phis		Shelby
Clary, W. F., Memphis Trust Bldg., Memphis.....		Shelby
Clifton, Joe, 924½ S. Cooper St., Memphis.....		Shelby
Castles, W. A. S., 63 1-2 N. Main St., Memphis.....		Shelby
Campbell, S. S., 629 Monroe St., Memphis.....		Shelby
Clark, J. C., Goodwyn Inst., Memphis.....		Shelby
Cochran, J. F., 579 5th St., Memphis.....		Shelby
Cunningham, J. W., Randolph Bldg., Memphis.....		Shelby
Currie, J. A., Lee Bldg., Memphis.....		Shelby
Daves, A. C., McLemore & Ryburn Sts., Memphis.....		Shelby
Dickson, Harry, 1047 Arkansas Ave., Memphis.....		Shelby
Dunavant, B. N., Secy., Roger Bldg., Memphis.....		Shelby
Duval, C. E., McLemore & Rayburn Sts., Mem- phis		Shelby
Duncan, I. G., Memphis Trust Bldg., Memphis.....		Shelby
DeLoach, A. B., Scimitar Bldg., Memphis.....		Shelby
Ellett, C. E., Exchange Bldg., Memphis.....		Shelby
Everett, H. B., Binghampton.....		Shelby
Edwards, C. W., Miss & Walker Aves.....		Shelby
Erskine, Alexander (Vet.), 1466 Monroe Ave., Memphis		Shelby
Fontaine, Bryce W., Central Bank Bldg., Mem- phis		Shelby
Francis, E. E., 115 N. Main, Memphis.....		Shelby
Farris, H. L., Frisco Hosp., St. Louis, Mo.....		Shelby
French, J. E., 27 N. Claybrook Ave., Memphis.....		Shelby
Flippin, P. J., Brunswick.....		Shelby
Flagin, Robt., Tenn. Trust Bldg., Memphis.....		Shelby
Flaniken, R. B., R. F. D. 1, Brunswick.....		Shelby
Fleumer, O. C., Goodbar Bldg., Memphis.....		Shelby
Farrington, P. M., Memphis Trust Bldg., Mem- phis		Shelby
Frost, I. N., Station C. Memphis.....		Shelby
Graham, Frank, Goodwyn Inst., Memphis		Shelby
Gartley, Geo., 696 Jackson Ave., Memphis.....		Shelby
Gray, Jas. N., Arlington.....		Shelby
Goltman, M., Memphis Trust Bldg., Memphis.....		Shelby
Hudson, A. G., Raines.....		Shelby
Henning, B. G., Memphis Trust Bldg., Memphis.....		Shelby
Ham, E. C., Randolph Bldg., Memphis.....		Shelby
Huddleston, J. J., Tenn. Trust Bldg., Memphis.....		Shelby
Harris, C., care Court House, Memphis.....		Shelby
Haskell, L. W., Memphis Trust Bldg., Memphis.....		Shelby
Harwell, W. T., Brunswick.....		Shelby
Haynes, E. E., Randolph Bldg., Memphis.....		Shelby
Hoover, F. B., Goodwyn Inst., Memphis.....		Shelby
Henning, D. M., Memphis Trust Bldg., Memphis		Shelby
Haase, M., Memphis Trust Bldg., Memphis.....		Shelby
Hall, D. M., Memphis Trust Bldg., Memphis.....		Shelby
Henderson, R. G., Randolph Bldg. Memphis.....		Shelby

Name	Address	County	Name	Address	County
Holder, E. M.,	Memphis Trust Bldg.,	Memphis..Shelby	Pettey, G. E.,	958 S. 4th St.,	Memphis.....Shelby
Horn, W. D.,	Brunswick.....	Memphis	Pendergrast, L. H.,	Memphis Trust Bldg.,	Memphis.....Shelby
Howard, C. C.,	Memphis.....	Shelby	Price, J. W.,	Memphis Trust Bldg.,	Memphis...Shelby
Hill, J. F.,	Exchange Bldg.,	Memphis.....Shelby	Perkins, P. A.,	Memphis Trust Bldg.,	Memphis..Shelby
Holmes, J. B.,	1686 Euclid Ave.,	Memphis.....Shelby	Pride, W. T.,	Memphis Trust Bldg.,	Memphis..Shelby
Jacobs, A. G.,	Goodwyn Inst.,	Memphis.....Shelby	Posert Henry, So.	Express Bldg.,	Memphis....Shelby
Jones, F. A.,	Tenn. Trust Bldg.,	Memphis.....Shelby	Pistole, W. H.,	Exchange Bldg.,	Memphis.....Shelby
Jones, Heber,	Exchange Bldg.,	Memphis.....Shelby	Ragsdale, W. E.,	Station G.,	Memphis.....Shelby
Jelks, Jno. L.,	Tenn. Trust Bldg.,	Memphis.....Shelby	Raines, N. F.,	Raines,	Shelby
Johnson, J. E.,	Exchange Bld.,	Memphis.....Shelby	Reilly, J. H.,	Tenn. Trust Bldg.,	Memphis.....Shelby
Jones, Kennedy,	Tenn. Trust Bldg.,	Memphis..Shelby	Rudisill, A. W.,	1047 Patton,	Memphis.....Shelby
Jones, Geo. P.,	McLemore & Rayburn,	Memphis..Shelby	Rogers, W. B.,	Rogers Bldg.,	Memphis.....Shelby
Kane, Elizabeth C.,	Exchange Bldg.,	Memphis..Shelby	Rosamond, Eugene,	Byrd Bldg.,	Memphis....Shelby
Krauss, Wm.,	Memphis Trust Bldg.,	Memphis....Shelby	Rucker, S. T.,	935 Raleigh,	Memphis.....Shelby
Kincaid, H. B.,	Memphis Trust Bldg.,	Memphis..Shelby	Savage, G. H.,	Byrd Bldg.,	Memphis.....Shelby
Laten, O. M.,	1680 Lamar St.,	Memphis.....Shelby	Sinclair, A. G.,	So. Express Bldg.,	Memphis...Shelby
Lewis, A. C.,	Exchange Bldg.	Memphis.....Shelby	Summers, C. K.,	Exchange Bldg.,	Memphis.....Shelby
Leake, E. K.,	Collierville.....	Shelby	Sauls, D. K.,	174 S. Main St.,	Memphis.....Shelby
Levy, Louis,	1720 Exchange Bldg.,	Memphis...Shelby	Smythe, F. D.,	Porter Bldg.,	Memphis.....Shelby
Livermore, Geo.,	R., Exchange Bldg.,	Memphis..Shelby	Stanley, J.,	Byrum, Randolph Bldg.,	Memphis...Shelby
Lipscomb, J. A.,	63 N. Main St.,	Memphis.....Shelby	Stevens, W. A.,	Exchange Bldg.,	Memphis.....Shelby
Leroy, Louis,	Byrd Bldg.,	Memphis.....Shelby	Schultz, M. A.,	40 W. Iowa Ave.,	Memphis.....Shelby
Lawrence, W. S.,	Memphis Trust Bldg.,	Memphis.....Shelby	Sibley, S. J.,	752 McLemore,	Memphis.....Shelby
Lanhorn, C. C.,	700 N. Main St.,	Memphis...Shelby	Smith, Jos. H.,	Exchange Bldg.,	Memphis.....Shelby
Mann, J. M.,	Station G., No. 5,	Memphis.....Shelby	Smith, W. H.,	256 Randolph Bldg.,	Memphis...Shelby
Meyer, L. L.,	Memphis Trust Bldg.,	Memphis....Shelby	Somerville, W. G.,	Central Bank,	Memphis....Shelby
Moore, Alfred,	Randolph Bldg.,	Memphis.....Shelby	Simpson, W. L.,	1702 Exchange Bldg.,	Memphis..Shelby
McGhee, J. L.,	Porter Bldg.,	Memphis.....Shelby	Turner, B. F.,	Odd Fellows Bldg.,	Memphis...Shelby
McMahon, A. R.,	Goodwyn Inst.,	Memphis.....Shelby	Thornton, G. B.,	(Vet), 150 Court Ave.,	Memphis.....Shelby
McMahon, B. L.,	Randolph Bldg.,	Memphis.....Shelby	Thomas, J. R.,	Tenn. Trust Bldg.,	Memphis...Shelby
Mitchell, Robt. H.,	So. Ex. Bldg.,	Memphis...Shelby	Toombs, P. W.,	Exchange Bldg.,	Memphis.....Shelby
Morrow, C. S.,	Rogers Bldg.,	Memphis.....Shelby	Thorn, S. W.,	802 Louisiana Ave.,	Memphis...Shelby
Mitchell, E. D.,	So. Express Bldg.,	Memphis...Shelby	Taylor, Neumon,	2154 Young Ave.,	Memphis...Shelby
Malone, F. M.,	Capleville.....	Shelby	Taylor, W. W.,	Randolph Bldg.,	Memphis.....Shelby
Minor, Jas. L.,	Randolph Bldg.,	Memphis.....Shelby	Terrell, S. D.,	Exchange Bldg.,	Memphis.....Shelby
Minor, H. F.,	Randolph Bldg.,	Memphis.....Shelby	Underwood, Robt. B.,	784 Poplar St.,	Memphis..Shelby
Maury, Jno. M.,	Memphis Trust Bldg.,	Memphis..Shelby	Vaughan, J. A.,	Memphis Trust Bldg.,	Memphis..Shelby
Moore, Moore,	Memphis Trust Bldg.,	Memphis..Shelby	Van Horn, J. A.,	Miami, Fla.....	Shelby
McCown, O. S.,	Memphis Trust Bldg.,	Memphis..Shelby	Venn, J. H.,	Scimitar Bldg.,	Memphis.....Shelby
Mann, Robt.,	Goodwyn Inst.,	Memphis.....Shelby	Waer, O. S.,	930 Exchange Bldg.,	Memphis.....Shelby
McDonald, J. A.,	Tenn. Trust Bldg.,	Memphis..Shelby	Williams, A. B.,	Randolph Bldg.,	Memphis.....Shelby
Mason, R. F.,	Randolph Bldg.,	Memphis.....Shelby	White, C. A.,	Tenn. Trust Bldg.,	Memphis.....Shelby
Malone, Battle, Pres.,	Rodgers Bldg.,	Memphis...Shelby	Williamson, Edward,	Odd Fellows Bldg.,	Memphis.....Shelby
Manker, R. A.,	463 N. Dunlap St.,	Memphis...Shelby	Walker, H. L.,	Exchange Bldg.,	Memphis.....Shelby
Mecker, Sidney,	Memphis Trust Bldg.,	Memphis..Shelby	Watkins, E. D.,	Memphis Trust Bldg.,	Memphis..Shelby
Michie, W. T.,	Scimitar Bldg.,	Memphis.....Shelby	Watkins, H. C.,	Lee Bldg.,	Memphis.....Shelby
Moss, Jno.,	Tenn. Trust Bldg.,	Memphis...Shelby	Wolff, H. S.,	So. Express Bldg.,	Memphis.....Shelby
Maury, R. B.,	513 Beale Ave.,	Memphis.....Shelby	Wadley, S. L.,	699 N. 2nd St.,	Memphis.....Shelby
Malone, G. B.,	Memphis Trust Bldg.,	Memphis..Shelby	Waddington, W. J.,	Memphis Trust Bldg.,	Memphis.....Shelby
McElroy, J. B.,	Porter Bldg.,	Memphis.....Shelby	Webb, W. S.,	521 S. Front St.,	Memphis.....Shelby
McKinney, Richmond,	Memphis Trust Bldg.,	Memphis.....Shelby	Wallace, W. R.,	958 So. 4th St.,	Memphis.....Shelby
Mitchell, E. C.,	Exchange Bldg.,	Memphis.....Shelby	Williamson, W. L.,	Goodwyn Inst.,	Memphis...Shelby
Mitchell, W. W.,	Randolph Bldg.,	Memphis...Shelby	Walton, J. M.,	901 N. 3rd St.,	Memphis.....Shelby
Nelson, R. B.,	Exchange Bldg.,	Memphis.....Shelby	West, H. A.,	Memphis.....	Shelby
Oliver, A. B.,	Randolph Bldg.,	Memphis.....Shelby	White, R. L.,	2109 Harbert,	Memphis.....Shelby
Owens, Jas. P.,	Tenn. Trust Bldg.,	Memphis...Shelby	Winston, A. L.,	3542 Summer St.,	Memphis...Shelby
Peete, E. M.,	Memphis Trust Bldg.,	Memphis..Shelby			
Porter, A. R.,	Randolph Bldg.,	Memphis.....Shelby			

SMITH COUNTY.

Name	Address	County
Alexander, M. N., Pleasant Shade.....		Smith
Beasley, J. J., Pleasant Shade.....		Smith
Beasley, Isham, Dickson Springs.....		Smith
Bridges, J. G., New Middleton.....		Smith
Campbell, J. S., Gordonville.....		Smith
Chism, J. H., Carthage.....		Smith
Crockett, W. M., New Middleton.....		Smith
Donoho, C. H., Difficult.....		Smith
High, B. J., Sec'y., Elmwood.....		Smith
Hargis, F. C., Chestnut Mound.....		Smith
Key, R. E., Pres. Monoville.....		Smith
King, A. H., Chestnut Mound.....		Smith
King, R. W., Gordonsville.....		Smith
Robins, C. D., Gordonsville.....		Smith
Swope, Frank, Carthage.....		Smith

SUMNER COUNTY.

Allen, W. T., Pres., Gallatin.....	Sumner
Appling, W. B., Portland.....	Sumner
Dorris, W. B., R. F. D. No. 4, Gallatin.....	Sumner
Dotson, W. S., Sec'y., Gallatin.....	Sumner
Dunklin, F. H., Gallatin.....	Sumner
Galbreath, B. S., Hendersonville.....	Sumner
Hobdy, F. E., Brackentown.....	Sumner
Lackey, W. N., Gallatin.....	Sumner
McNeil, J. H., Mitchellville.....	Sumner
Parker, John R., Gallatin.....	Sumner
Peeden, E. F., Portland.....	Sumner
Reece, Homer, Gallatin.....	Sumner
Shoulders, H. S., Castalian Springs.....	Sumner
Venters, J. M., Portland.....	Sumner
Waldan, V. A., R. F. D. 3, Fountain Head....	Sumner
Wheat, L. E., Cottontown, R. F. D. 2.....	Sumner
Woodson, L. M., Gallatin.....	Sumner
Wright, T. E., Bethpage.....	Sumner

UNICOI COUNTY.

Bradshaw, J. I., Erwin.....	Unicoi
Edwards, C. P., Erwin.....	Unicoi
Tilson, L. S., Erwin.....	Unicoi
Williams, G. C., Pres., Erwin.....	Unicoi
Hensley, T. C., Erwin.....	Unicoi
Woodard, W. T., Sec'y., Erwin.....	Unicoi
Sams, W. A., Unicoi.....	Unicoi

TIPTON COUNTY.

Crice, G. W., Covington.....	Tipton
Sale, H. W., Covington.....	Tipton
Hill, L. Jr., Covington.....	Tipton
Yarborough, Y. A., Covington.....	Tipton
Dickson, B. V., Covington.....	Tipton
Gassoway, T. B., Covington.....	Tipton
McBride, J. W., Covington.....	Tipton
Gillespie, G. B., Covington.....	Tipton
Lindsay, L. J., Covington.....	Tipton
Blackwood, W. J., Covington.....	Tipton
Blaydes, A. B., Atoka.....	Tipton
Brown, Geo. B., Atoka.....	Tipton

Name	Address	County
Flenning, J. J., Atoka.....		Tipton
Rice, Jno. C., Braden.....		Tipton
Newman, N. R., Bride.....		Tipton
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Herring, E. B., Mason.....		Tipton
Irwin, J. O., Randolph.....		Tipton
Witherington, J. B., Mumford.....		Tipton
Witherington, A. S., Mumford.....		Tipton
Posey, W. F., Mumford.....		Tipton

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Burger, Thos. O., Secy., McMinnville.....	Warren
Cantrell, Q. C., Pres., McMinnville.....	Warren
Copenhaver, H. V., Rock Island.....	Warren
Cummings, V. B., (Vet.), Rowland.....	Warren
Doyle, H. A., Goodbars.....	Warren
Fisher, G. C., Dibrell.....	Warren
Mooneyham, E. L., Rock Island.....	Warren
Northcutt, E. E., McMinnville.....	Warren
Ramsey, A. B., McMinnville.....	Warren
Reynolds, Herman, Viola.....	Warren
Seitz, Albert, McMinnville.....	Warren
Tubb, M. M., McMinnville, R. F. D. 5.....	Warren
Trail, A. J., McMinnville.....	Warren

WASHINGTON COUNTY.

Arnold, J. F., Limestone.....	Washington
Bachman, J. S., Bristol.....	Washington
Brabson, C. W., Limestone.....	Washington
Bolton, R. S., Johnson City.....	Washington
Broyles, C. J., Johnson City.....	Washington
Campbell, G. E., Elizabethton.....	Washington
Cease, Harry, Johnson City.....	Washington
Cox, J. W., Secy., Johnson City.....	Washington
Carroll, C. T., Johnson City.....	Washington
Dulaney, W. R., Jonesboro.....	Washington
Jones, J. H., Garbers.....	Washington
Kennedy, W. T., Johnson City.....	Washington
Long, E. A., Johnson City.....	Washington
Matthews, W. J., Johnson City.....	Washington
Miller, H. D., Johnson City.....	Washington
Minton, W. E., Milligan.....	Washington
Panhorst, M. H., Jonesboro.....	Washington
Pierce, J. R., National Soldiers Home.....	Washington
Randall, J. P., Johnson City.....	Washington
Sells, G. J., Johnson City.....	Washington
Smith, C. E., Johnson City.....	Washington
St. John, W. B., Bristol.....	Washington
Taylor, W. S., Milligan.....	Washington
West, E. T., Johnson City.....	Washington
Wallace, J. W., Watauga.....	Washington

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Biggs, V. A., Martin.....	Weakley
Young, J. C., Martin.....	Weakley
McKay, R. F., Pres., Martin.....	Weakley
Hannings, H. V., Martin.....	Weakley

Name	Address	County
Sawyers, T. E., Martin, R. F. D.	Weakley
Scates, D. W., Martin	Weakley
Fields, T. W., Dresden	Weakley
Little, R. M., Sec'y., Dresden	Weakley
Mayo, B. S., Dresden	Weakley
McBride, W. W., Gleason	Weakley
Finch, J. B., Dresden	Weakley
Parrish, B. B., Dresden	Weakley
Jeter, E. J., Gleason	Weakley
Thomas, G. C., Greenfield	Weakley
Elinor, T. Z., Greenfield, R. F. D.	Weakley
Tatum, T. J., Gleason, R. F. D.	Weakley
Shannon, E. J., Sharon	Weakley
Simmons, J. E., Fulton, Ky.	Weakley

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Breeding, W. J., Ravenscroft	White
Bradley, A. A., Eastland	White
Brock, W. L., Sparta	White
Cantrell, W. B., Pres., Cassville	.....	White
Cotton, L. D., Sparta	.....	White
Earles, P. H., Sparta	.....	White
Gaines, S. E., Sparta	.....	White
Gott, J. R., Clifty	.....	White
Gist, D. R., Sparta	.....	White
Johnson, W. M., Bon Air	.....	White
Lewis, P. K., Doyle	White
Mason, E. C., Ravens' Croft	White
Richards, A. F., Sec'y., Sparta	White
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Young, W. B., Clifty	White

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Covington, W. J. M., College Grove	Williamson
Core, J. B., Bethesda	Williamson
Cowles, R. S., Franklin, R. F. D. 2	Williamson
German, Dan, Jr., Franklin	.....	Williamson
Graham, W. W., College Grove, R. F. D. 2	.....	Williamson
Greer, J. W., Thompson Station	.....	Williamson
Howlett, K. S., Sec'y., Franklin	.....	Williamson
Nolen, B. T., Franklin	Williamson
Oden, S. F., Brentwood	Williamson

Name	Address	County
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Smith, J. D., R. F. D. 1, Franklin	Williamson

WILSON COUNTY.

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Bone, James R., Sec'y., Lebanon	Wilson
Davis J. L., Watertown	Wilson
Eskew, A. O., Lebanon	Wilson
Edgerton, H. K., Lebanon	Wilson
Landis, P. K., Laguado	Wilson
Lillard, R. Q., Lebanon	Wilson
McFarland, J. J., Lebanon	Wilson
Oldham, D. P., Mt. Juliet	Wilson
Rhea, B. S., Lebanon	Wilson
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Young, C. V., Lebanon	Wilson

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Paschal, A. F., Crossland, Ky.	Henry
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A COLD-BLOODED ZOOLOGICAL INQUIRY INTO AMERICAN PATRIOTISM.*

BY CH. WARDELL STILES, PH.D.,

*Professor of Zoology, U. S. Public Health, and
Marine-Hospital Service.*

When you visit a factory, you are doubtless interested in the machinery that is so complicated and wonderful that it almost talks, but in order to judge its efficiency, you study carefully, and with every test, samples of the product. When you visit a school or college, you are doubtless interested in the buildings, the campus, and the equipment, but before you pass judgment upon it you say to the faculty, "Show us your product. Is he a well-rounded man?" If you wish to pass judgment on American patriotism, you are justified in estimating its degree and its quality by all the results accruing from it.

Patriotism is inborn and it has a distinct biological basis. It is that inborn instinct of a people for the self-preservation of the community. It differs from the inborn instinct of self-preservation of the individual in that it is altruistic instead of selfish, so far as the individual is concerned. The spirit of self-preservation of the individual may lead a man to desert wife and family, when he does not see where the next meal is coming from, but the spirit of self-preservation of the community leads a man to desert his own self-interests and smilingly

to meet death, if necessary, in order to preserve the homes of his land.

Patriotism may be considered from different points of view and defined in different terms. From the cold-blooded zoological point of view we may define it as that inborn sex instinct of an animal which leads him to forget himself as an individual in an effort to protect, safeguard, and advance a much higher unit of organization known, in respect to mankind, as the nation, the latter composed of intermediate units, known, as applied to mankind, under the name of families.

An altruistic feeling, that is to say, an unselfish concern in forwarding the welfare of others, is fundamental to patriotism.

This evening I invite your attention, for a few moments to a cold-blooded zoological inquiry into the patriotism of the average American man.

The American people may be classified into two different biological, anatomical, and physiological groups of animals, one known technically as males and the other as females. In this anatomical differentiation of structure and physiological division of labor, it must be clear to any careful analyst that the males have obtained the better half of the bargain, in that they are more rugged, that anatomically they are less liable to sustain injury from a normal life, that physiologically they are less subject to suffering, and Nature has not had to give to them that inborn unselfish instinct that characterizes the female—an instinct known as a "mother's instinct"—one that leads her to be

*Address before the Tennessee State Medical Association, delivered in Chattanooga, April 9, 1912 upon the request of the Committee in substitution of the Annual Address by Dr. Musser, deceased a few days prior to the meeting.

happy despite the cruel stepmother-like way in which Nature has treated her.

The male animal is supposed to have within him an inborn instinct of another kind, one that leads him to surround his physically, anatomically, and physiologically weaker co-animal, or mate—the female—and her offspring, with every reasonable safeguard against unnecessary hunger, sickness, suffering, danger, and death. This in our popular vernacular is patriotism—namely love of country—the *patriā*. In its biological analysis, however, it is a sex instinct, usually a paternal instinct, based upon the biological fact that unless the female of the species receives the protection to which she is justly entitled, and which Nature intends she should receive, the species will deteriorate and eventually become extinct.

Call this inborn feeling what you will—patriotism, in the usual vernacular, or sex protection and paternalism from a biologic point of view, permit me to inquire, in how far has the American male carried out his duty in this respect to the American female?

Looking back over the past few years, we recall that our one living ex-President created quite a stir with what he called "Race-Suicide," and in this connection he took certain American females to task.

Not long afterward, our most universally beloved American college president was widely reported in the daily press as announcing the dictum that every human female should bear six offspring.

For the purpose of this discussion, it will be assumed that both of these persons were correctly reported.

Were we to discuss this subject in detail from a zoological point of view, it would not be difficult to show that it would be possible to present some not unimportant biological comparisons and facts which could be quoted with considerable force against the contentions of my learned co-animals just mentioned. If we do not wish to stop for these details, however, it may at least be pointed out that both of these dicta emanated from very scholarly, very eminent animals, but that both of these individuals belong to that particular category of human animal which has never given birth to offspring. It is legitimate to inquire, therefore, whether

they considered the female point of view before they issued the statements attributed to them. Did they, for instance, consider in this connection whether the American male animal had surrounded the American female and her offspring with every reasonable safeguard against unnecessary sickness, suffering, danger and death? That is to say, did they inquire just what was to become of the six offspring each female was to bear? In other words, in dictating to the female her duty, did these scholarly males make sure that their own sex had fulfilled its duty of patriotism or paternalism, that sex instinct that belongs especially to male animals?

As a fundamental premise I wish to put forward the biological fact that every human gestation and every human birth that takes place in this country which does not result in a child that eventually reaches healthy manhood or womanhood is a distinct detriment to our country, for first, it unnecessarily subjects the physiologically weaker American female animal to nine months of a wearisome life, followed by a severe, dangerous, and painful ordeal, and tedious months of recovery; *secondly*, it adds long nights of anxiety at the sick-bed to long days of labor at the wash-tub, the sewing-machine, the dish-pan, and the cook-stove; *thirdly*, it adds an instinctive sorrow to a female's heart. (As this discussion is supposed to be absolutely cold-blooded, perhaps I should not have mentioned this third point.) These results, I submit, speaking from a cold-blooded zoological point of view, are not in the interest of the well-being of our nation; and in this same cold-blooded spirit in which I have viewed our mothers, our wives, our sisters, and our sweethearts, simply as female animals, I must submit that just in so far as the American male animals, including you and me, President Roosevelt and President Elliot, just in so far, I say, as we males have failed to surround our females and their offspring with all the protection in our power, and to safeguard our females from gestations that have not eventually resulted in healthy adults, we American males have failed to fulfil the duty of protection that devolves upon our sex, that is to say, we have failed in our patriotism or paternalism.

In other words, true patriotism, patriotism of the highest type, involves not only the physical

courage to be a target for foreign sharp-shooters, but it involves a never sleeping concern for the female of the species and a protection of that female and her offspring against every unnecessary sorrow, suffering, pain, danger, and death, and I conclude from our inquiry this evening that it is self-evident that a nation's patriotism is to be measured not only by its demonstrated ability to indulge in a legalized slaughter of the males of another nation but by its demonstrated ability and willingness to protect and conserve the females of its own nation.

Having, I hope, made my premises perfectly clear, I take the liberty of presenting just a few statistics for your consideration:

According to present estimates we lose in this country annually, by death, about 1,500,000 human animals; about 640,000 of these or 42 per cent, die of preventable or postponable causes. In other words, annually hundreds of thousands of American females visit the unnecessary graves of their offspring, and tens of thousands of the gestations of American females count for naught.

About 175,000 of these unnecessary deaths are from tuberculosis, but the American male, including many American physicians, continues merrily to spit on the floor.

About 35,000 Americans die, per year, of typhoid fever; yet in our Southern States less than half of our country schools, few of our country churches, and only about half of our country homes have a privy of any kind. In our small towns, our sanitation is behind the time of Moses. Compared with other countries, we may note that our nation-wide death-rate from this easily preventable filth disease is about four times that of Scotland, seven times that of Germany and ten times that of Switzerland. The Southern death-rate from this disease is nearly sixteen times that of Switzerland.

It has been estimated that somewhere about one out of every five American children born dies before it reaches one year of age, and that in the vast majority of cases these deaths are preventable.

Just how many American children die before they are five years old is not known at present, because certain of our legislators have been so busily engaged in so much slobbering twaddle and hot air that they have not yet had time to

pass uniform registration laws which will enable us to open the eyes of the American females to the frightful injustice to which American males have subjected them by failing intelligently to exercise the ballot in favor of a rational protection of woman life comparable with the protection they give to cow life and sow life.

It is estimated that there exist in the United States about 2,000,000 cases of syphilis and 7,000,000 cases of gonorrhea, but with a drunken prudery we say that we must not let these facts be known, but our nation-wide policy—our patriotism and humanitarianism, if you please—leads us to support the State blind institutes and gynecological clinics but to spare the modesty of our females by gallantly failing to warn them that they should protect themselves against marrying certain medical types of males and against attempting to carry out the dicta of President Roosevelt and President Elliot under certain circumstances.

Of the 96 counties in Tennessee not one has a full time health officer. Further, on reliable authority, it is stated that not a single city or town in this state has a full time health officer.

The Journal of this Association, in this month's issue, p. 506, says editorially: "To state the truth plainly, under the present law it [the State Board of Health] is merely the plaything of partisan politics—a trick in the political game."

Nashville, Knoxville, and Memphis, through efforts of the school-teachers and the city health officers have recently improved their medical inspection in the public schools, but if my memory serves me correctly the males of Hamilton County, are, to date, the only males in the 96 counties of Tennessee who have given a practical demonstration of their determination to safeguard their females by a general county school medical inspection.

Andrew Jackson is the patron saint of this State. He was a good fighter and I would not say one word against him on the basis of the good name he bears, but viewed from a brutal zoological point of view, Andrew Jackson's love of the young and his gallantry to females appeal to me as stamping him as a real patriot much more than does his reputation as a soldier.

The statistics of preventable pauperism, preventable insanity, preventable crime, preventable

illiteracy due to preventable alcoholism, might be added in this connection, but I will leave the subject with you at this point, suggesting simply that you reflect upon these statistics and upon this cold-blooded conception of patriotism that I have endeavored to present to you. After reflecting awhile, suppose you ask yourself the question whether the American male animal is as patriotic as the average orator attempts to prove, or whether the American male is selfish, conceited, thoughtless, inconsiderate, and unpatriotic. Understand, please, I am personally drawing no conclusion this evening. You might also reflect upon this question a moment: Suppose it were possible to reverse the course of Nature for about one year, to give our males the maternal instincts with the bearing and care of the children, with a life at the washtub, and cookstove, and give to the females the care of the government, how many males would at the end of the year talk of increasing the birth-rate instead of taking action to decrease the death-rate, and how many would talk of race-suicide instead of race-murder?

Understand, please, I am drawing no conclusion this evening. In fact, I am expressing no opinion, beyond those that are strictly zoological in nature and well established biologically. All I am attempting to do is to remove for just a few moments this much harangued subject of American patriotism from the realm of the hot-air artist, subject it to a laboratory inquiry from a somewhat unusual point of view, bring it down to earth, and leave the conclusions for you to draw.

Why should you not judge American patriotism in the same way as you judge the machinery of a factory or the graduate of a college, namely from the product or result viewed from every angle and put to every test?

VACCINATION AGAINST TYPHOID FEVER.

BY WM. LITTERER, A. M., M. D.,

Professor Pathology and Bacteriology, Vanderbilt Medical College, Nashville, Tenn.

From the fifteenth to the twenty-fifth years mark the period of greatest susceptibility to typhoid fever. No satisfactory explanation has

been adduced to account for the resistance of infants and very young children to the disease. It may be possible that a certain amount of resistance inherited from the mother may persist for some years after birth. Especially since it is a well-known fact that antibodies may pass from the mother to the fetus through the placenta. Again the tissues in very early life may respond more readily and energetically to incipient infection by the rapid formation of typhoid antibodies, or through the activity of the phagocytic cells the antibody production may be accelerated. The conditions which render older people less susceptible are no better understood. According to Rickets a loss of suitable receptors may have occurred so that the toxic constituents of the bacilli find no anchorage in the body, or the affinity between the receptors and the toxic constituents may have become less. The individual during the course of years may have been gradually immunized by the entrance of non-pathogenic quantities of the bacilli into the circulation.

A large amount of protection is afforded by the hydrochloric acid of the gastric juice, and it is reasonable to believe that suppression or any insufficient amount of hydrochloric acid may favor the passage of living bacilli to the intestines. Normal human serum is rather strongly bactericidal for the typhoid bacillus, and the leucocytes ingest and destroy it. Metchnikoff ascribes natural immunity to the action of the microphages.

The immunity which follows an attack of typhoid fever is generally of long duration, but second attacks occur with some frequency. This second or third attack is probably due to a different type of typhoid bacillus. It has been noted that limited communities which have experienced an epidemic may remain relatively free from the disease over a period of some years, although neighboring districts are attacked. All the susceptible persons having had the disease, a state of temporary regional immunity is created. Acquired immunity is characterized by an increase of the bactericidal amboceptors, agglutinins and typhoid precipitins in the serum. It is commonly believed that recovery is due to the increase of the bactericidal power of the body fluids, which becomes most marked during the later period of the disease

or during convalescence. (Rickets.) It seems certain, however, that the new resistance persists beyond the time when the bactericidal power of the serum has returned to normal, which may take place in from one to several years. The bactericidal power sinks rapidly during and following convalescence. However, the general principle is well established that, although the antibodies may have disappeared entirely, they are, reformed more rapidly as a consequence of an old infection (Neisser and Shiga). The tissue cells have, so to say, been trained and are stimulated by a few micro-organisms to produce such a quantity of bactericidal amboceptors that the incipient infection is overcome. It is, of course, understood that the amboceptors require the aid of complement in killing the microorganisms. A second attack of typhoid fever usually is mild. (Rickets.)

Metchnikoff does not deny that the amboceptors (fixators) play an important part in acquired immunity, but claims that the new resistance depends chiefly on an increase in the phagocytic power of the microphages (polymorphonuclear leucocytes). This is not clear from the clinical standpoint because of the hypoleucocytosis which is somewhat characteristic of typhoid—a hypoleucocytosis caused chiefly by a disappearance of the microphages. It has been suggested that our conclusions as to hypoleucocytosis are based on examination of the peripheral blood, whereas the mesenteric vessels may show hyperleucocytosis. Mallory, however, found a striking absence of microphages even in the intestinal vessels. Concerning a theory that the hyperplasia of the lymphoid organs serves as a substitute for the hyperleucocytosis, we may recall the findings of Mallory that this hyperplasia is chiefly one of endothelial cells. The importance of these endothelial cells for the destruction of typhoid bacilli needs further investigation.

The early history of antityphoid inoculation concerned itself with the same problems which led up to the Pasteur methods of inoculation against rabies and anthrax or to anticholera inoculations of Haffkine. The pioneer work of Prof. Pfeiffer in 1896, who was able to obtain a specific agglutinin reaction in man by the injection of heated typhoid culture in two cases, led through a personal communication to A. E.

Wright, to the experimental work and the publishing of the results of two inoculations by him. To Wright belongs the credit of having developed and placed upon a scientific basis the prophylactic inoculations against typhoid fever. He prepared gratuitously 400,000 vaccines during the Boer War for the inoculation of the British Soldierly and made 4,000 inoculations personally.

Criticism and opposition to Wright's method grew so strong, the following year 1898, that it was discontinued in the British Army. Subsequently the Royal Army Medical School appointed a commission to investigate Wright's methods scientifically and statistically. Col. Leishman headed this Commission which was appointed October 21, 1904, and reported its finding in *Journal of Hygiene*, 1905.

The entire report was confirmatory of Wright's contentions and still remains essentially his technique with a few modifications. This report did much to dispel the skepticism with which it was first regarded. The statistics of Wright on his vaccinations during the Boer War are based on 19,069 soldiers vaccinated as compared with 150,231 not vaccinated. Roughly considered, the vaccination reduced the incidences of the disease about 50% and the mortality almost 75%. Later, with better technique in the preparation of the vaccine and having the vaccination consist of two injections instead of one, the results have still been better. This is shown by a late report of Leishman, based on 5,473 persons vaccinated as compared with 6,610 not vaccinated, the number of cases of typhoid fever and deaths from that disease was only 1-10 as high among the former as among the latter.

The most recent figures from India reported by Col. R. H. Firth, covers the first six months of the year 1911. In that period there were, in all India, only 112 cases of typhoid in the Army with six deaths, among the protected men, and 45 cases with 4 deaths among the non-protected. The protected population was 62,624 soldiers, and the non-protected, 8,481. From this data we find the case incidence per thousand among the protected to be 1.7 and among the non-protected to be 53. Only one strain of typhoid vaccine was used.

If we take the mortality and express it as per million, then the ratio for the protected is 94, and the non-protected 471. That is to say, the incidence for typhoid for the first half year was roughly five times as great among the non-protected as among the protected.

They have vaccinated over 100,000 men in India without any untoward results. The last report of Major Russell (Major, Medical Corps, U. S. Army), adds more evidence to the already overwhelming testimony in favor of the protective value of antityphoid vaccination. The figures given for the fiscal year ending June 30, 1909, showed an incidence of typhoid fever 16 times greater among the unvaccinated than among the vaccinated troops. In 1910, there were 16,073 persons immunized with only five cases of typhoid developing. For 1911 the figures are not yet complete, but are estimated at over 80,000 making the total number of persons immunized approximately 100,000. Major Russell says that the effect on the morbidity from this disease for the entire Army is now becoming apparent; the admission and death rate for 1910 were the best as yet recorded, and in the year 1911 the number of admissions had fallen to 1.4 (from 2.4 per thousand to 0.6) of that of last year. There were only 45 cases in the entire Army in the U. S. during 1911 and seven of these were contracted before enlistment.

The significance of this low rate appears when a comparison with preceding years is made; in 1909 there were 173 cases and 16 deaths; in 1910, 143 cases and 10 deaths, and in 1911, 45 cases and 8 deaths. He says that we are therefore justified in believing that under the conditions encountered in the Army vaccination is harmless and efficient and the results obtained were a source of considerable satisfaction.

Perhaps the most striking demonstration of the value of antityphoid vaccination is the experience of the maneuver division of the United States Army in Texas. About one-quarter of the troops that arrived at San Antonio had already been immunized by voluntary inoculation. It was decided, however, to make the procedure compulsory and this was carried out as rapidly as possible. The result was that among 12,801 men there was only one case of typhoid fever and no death. The patient who developed typhoid had not completed his immunization, having tak-

en only two doses and the case was one of extreme mildness, and would have probably been overlooked but for the rule that blood cultures were made of all fevers of over forty-eight hours' duration. In addition there was a civilian teamster who was not immunized and was admitted to the hospital, suffering from typhoid. When one compares these figures with the reports in the Spanish American War one notes a striking difference. In 1898, the second division of the Seventh Army Corps, which assembled at Jacksonville consisted of 10,759; there were 1,729 certain cases of typhoid, and counting in with these the probable cases there were 2,693. In these there were 248 deaths, and the total deaths from all diseases was 281.

Another experience which may help us in forming an opinion as to the efficacy of antityphoid vaccination has been related by Major Lyster. The Eleventh United States Cavalry participated in a Military Tournament in Nashville, Tennessee, lasting ten days, and on the return to Fort Oglethorpe, Georgia, typhoid appeared and spread until ten cases had occurred. At this time only 165 of the command had been immunized. The Post Commander, therefore, took measures which resulted in the immunization of 736 persons in the Regiment and of 70 civilians at the Post. The epidemic promptly ceased on completion of the immunization and soon afterward the regiment, with the exception of one troop left the post on a twenty-one days' march, going to Knoxville, Tennessee, and return some 300 miles. Major Lyster says:

"There was no attempt to boil or sterilize the drinking water used on this march, the supply being from whatever was used locally. On the return of the command, after spending twenty-one days in the country, where typhoid is prevalent practically throughout the year and living under war conditions, the sick report was stated by the commanding officer to have been a post nil. No subsequent cases of typhoid developed. While from the nature of the experiment the result is only presumptive evidence in favor of inoculation it cannot well be made conclusive for obvious reasons."

From the above results it is manifestly apparent that the regiment owed its freedom from

typhoid to the prophylactic treatment it had received before the march began.

DURATION OF IMMUNITY.

The duration of the immunity following vaccination still remains a subject for speculation. Col. Firth concluded from statistics recently collected in India that the degree of immunity begins to diminish between the second and third years after vaccination, and in order to maintain the troops in a maximum state of resistance he recommends reinoculation after two and one-half years. His tables also show that even after the fourth and fifth years considerable immunity remains as the rate per thousand is roughly only one-fourth of that of unprotected troops.

Only one dose of one billion bacilli is necessary for re-immunization. This is supposed to last for about three years longer.

DOSES FOR WOMEN AND CHILDREN.

Regarding the dosage for women and children, it may be stated that a healthy woman may receive as large a dose as a man; and if she is delicate, 3-4 only may be given.

Fox recommends 1-4 of a dose for children, aged from 7 to 12 years; 1-2 of a dose from 12 to 15 years, and 3-4 from 15 to 17 years; while above 17 the dose is the same as for adults. Alcohol taken after the inoculation will increase both the local and general reaction.

METHODS OF ADMINISTRATION.

"The Three Dose Method."

The usual method of administering the vaccine is in three doses. This "three dose method" has its drawbacks which will be discussed later. The first dose is 500 million; the second dose one billion, given ten days after; and the third dose another billion administered ten days after the second injection. The injection is given under the skin in a similar manner to one administering a hypodermic of morphine. An ordinary hypodermic is used in the left arm is selected if the patient is right handed. Usually from six to eight hours after the injection (sometimes sooner) there is a redness at the point of injection varying from the size of a dime to twice

the size of a dollar. It will be tender to the touch and painful upon pressure. The next day the redness will be more intense, larger and slightly edematous. If the reaction be severe it will extend over the entire biceps region, and even as low down as midway between the fore arm and hand. In from two to three days all redness and soreness disappears except for very severe reactions, which may last for four or five days longer. Abscesses or infections have never been recorded by anyone. This is in all probability due to the antiseptic that is used in preserving the vaccine. The constitutional reaction varies greatly. With some no discomfort is experienced, while in others the reaction is quite severe, producing very high fever (103 degrees F. to 106 degrees F.) for several days, attended with severe aching in the joints and muscles simulating lagrippe. Nausea, vomiting, albuminuria, and casts sometimes occur in these severe cases. The great majority of cases, however, have only a slight rise of temperature the day following the injection, with slight aching and malaise lasting from twelve to twenty-four hours.

Objections to the Three Dose Method.

(1). Occasional severe local and constitutional reactions are encountered which are sometimes quite distressing.

(2). An initial dose of 500 millions to some individuals will cause a distinct lowering of resistance and therefore a consequent susceptibility to typhoid fever during several days after its administration.

(3). The machinery of immunization will sometimes fail to respond in a proper manner should too much of the vaccine on the initial dose (500 millions) be given.

(4). Should a person be in the incubative stage of typhoid fever and 500 millions be administered, the result would probably be exceedingly dangerous.

The Test Dose, or the Four Dose Method.

In order to avoid these extremely severe reactions, a test dose should always be administered. This test dose contains 100 million dead typhoid bacilli which will rarely, if ever, produce untoward results. The severest reaction

resulting therefrom is only a slight malaise lasting a day with a degree or two of fever. The site of the injection is scarcely noticeable to the touch. A red area twice the size of a dollar is sometimes induced in the severest reactions. The person, even in these marked reactions, never takes to the bed, but on the other hand continues his or her daily duties as if nothing had happened. In the vast majority of instances the injection only produces a slight redness ranging from the size of a dime to that of a dollar, with no rise of temperature, nor any constitutional manifestations.

The second dose does not consist of a definite number of bacilli as in the three injection method. It is administered according to the mildness or severity of the first injection. For example should the first injection prove severe with a 100 million bacilli, then it would not be wise to give over 500 million at the second injection. Suppose the initial injection of a 100 million produces little or no symptoms, then it is reasonable to suppose that that individual can stand a much larger dose than the one showing a severe reaction. Consequently an injection of 700 million is given at the third dose, without producing the slightest discomfort. If no reaction with the initial dose is experienced then the interval between the first and second dose is cut down to five or six days instead of ten days, which is the usual time to wait. The third injection consisting of a billion to a billion and a half, is administered ten days after the second dose. The fourth dose contains one and a half billion bacilli which is given ten days after the third dose.

Advantages of the Four Dose Method.

In following out this scheme there is absolutely no untoward reactions nor discomfort to the individuals undergoing typhoid immunization. The highest and most lasting immunity can be accomplished by this method. There is manifestly no danger to be vaccinated during an epidemic or even while the patient is in the incubative stage of the disease. This latter condition is distinctly dangerous and has proved fatal more than once by the administration according to the "Three Dose Method," (viz.: By using 500 million as the first dose it simply over-

whelms the patient and so renders him more susceptible). Freeman cites a death in which too large an initial dose was used. The report appears in a recent issue of the Naval Medical Bulletin where a young marine in vigorous health, who, while in camp in Cuba, was inoculated with the same vaccine that was used in the routine inoculations of the marines of that corps, and who within two or three days thereafter developed a most virulent case of true typhoid fever and promptly died of it. At autopsy living typhoid bacilli were found in the heart blood and various tissues. The man who studied the case and did the bacteriological work, as well as the clinicians, agreed that this young man was most probably in the incubative stage of typhoid fever, and that the dose of typhoid vaccine was sufficient to overwhelm him and bring on a fatal issue. I know of two other cases of a similar nature which terminated fatally as a result of a large initial dose. This would have been impossible had a test dose of 100 million been given them. No lowering of their resistance could have been possible with said dose, but it is highly probable that with an initial dose of 500 million (just five times stronger than the test dose) that a distinct reduction in resistance and diminished opsonic power of the blood known as the negative phase was produced which caused the typhoid bacilli to grow more rapidly in the blood.

THERAPEUTIC USE.

It is logical to assume that a test dose of 100 million if given to a person that should happen to be in the incubative stage of typhoid that such a dose would be beneficial, in that the various antibodies, agglutinins, opsonins, etc., are speedily formed which might have a tendency to abort or more likely to lessen the duration and severity of the disease. I confidently predict that within the very near future that all early typhoids will be given small doses of the vaccine at repeated intervals. Sufficient reports by quite a number of clinicians are already at hand to warrant its further trial.

The weight of testimony now is that the vaccine administered early in the course of typhoid fever will cut short the course of the disease, decrease mortality, prevent relapses, eliminate

the carrier state and lessen the severity of the disease.

PREPARATION OF THE VACCINE.

Cultures of typhoid bacilli are grown for 24 hours on agar, washed off in normal salt solution and standardized so that 1 c. c. of emulsion contains one billion bacilli. They are killed by heating from 53 to 56 C. for one hour (the difference in killing temperature depending upon the strain of typhoid bacillus used). They are tested aerobically and anaerobically and finally guinea pigs are inoculated to see if they are innocuous. As a matter of additional safety and also as a preservative 0.25 per cent of tricresol is added. Many vaccines are made with only one strain of the bacillus typhosus. This is certainly not the ideal vaccine since it does not protect from the other strains, particularly the para-typhoid class which is becoming quite frequent. Realizing this fact, I am now making all of my vaccine to contain from five to seven different strains of typhoid, including the para "A" and "B" types. By such a vaccine one is more sure of an immunity of a wider scope than if a single strain were used.

PARATYPHOID.

Concerning the prevalence of paratyphoid, it can be stated that it varies greatly in different localities. Undoubtedly many cases are not reported which are due to the fact that careful search is not made. Not infrequently these paratyphoid cases are clinically indistinguishable to true typhoid and that they are never recognized unless a careful bacteriological investigation is made.

Schottmuller in Hamburg who has given this subject considerable study, found 10% of all cases diagnosed as typhoid fever as due to the paratyphoid type. Wells of Chicago discovered that 10% of the typhoid cases were really paratyphoid as shown by systematic blood cultures. As a result of the investigations of Major Statham in Pretoria, South Africa, he concluded that 25% of the continued fevers were paratyphoid. Lyons is authority for the statement that 7% of the typhoid infections occurring in New Orleans are really paratyphoids.

In Nashville and vicinity I find that the per cent of paratyphoid has ranged from 8% to 14% of all reported regular typhoids. The blood culture method of diagnosis has been used so extensively that a more absolute and definite diagnosis is recorded and numerous cases of paratyphoids are found which would otherwise be placed under the diagnosis of regular typhoid.

Paratyphoid is undoubtedly on the increase. Last year I found that 14% of all blood cultures and widals (paratyphoid) proved to be due to some type of the paratyphoid bacillus. The cases are apparently more numerous in the country than in the city.

Owing to the fact that from 5% to 25% of typhoid fever is due to some strain of the paratyphoid bacillus, it is manifestly apparent that in making a vaccine that these paratyphoids should be included in said vaccine in order to be as potent as possible. This I have endeavored to do in making the "typhoid vaccine" for immunizing purposes.

CONCLUSIONS.

(1). Statistics based on a large number of cases show conclusively that Antityphoid vaccination confers a marked degree of protection against typhoid fever.

(2). The method of antityphoid vaccination involves no risk and is especially applicable for those constantly exposed to the infection, such as nurses, hospital attendants, physicians, travelers, campers, etc.

(3). Individuals should be immunized if living in a district where the typhoid-rate is high or before leaving a healthy city for a summer vacation.

(4). The administration of the vaccine in four doses has many advantages over the three dose method. It produces the highest and most lasting immunity without discomfort or danger to individuals undergoing immunization.

(5). The weight of testimony now is that the vaccine administered early in the stage of typhoid, will cut short the course of the disease, make the patient more comfortable, prevent relapses and eliminate the carrier state.

(6). Typhoid vaccine should contain different strains of bacilli (polyvalent and para "A" and "B") thereby inducing an immunity of a wider scope than if a single strain were used.

"PREVENTION OF TYPHOID FEVER."*

BY W. C. OFFICER, M. D.,

Monterey, Tennessee.

Progress of any particular kind is the resultant of the operation of many diverse forces, advancements and retrogressions appear hand in hand, and to the watchers, the advancement appears slow, but people advance politically, morally and hygienically only as their minds are educated in the particular field of advances desired. The many notable achievements in sanitation in many different parts of the world during the last ten years gives brilliant promise of what the future holds.

Statistics about diseases are now being more carefully collected and published, and in consequence the public generally are becoming intelligently interested. Science has demonstrated efficient and practical methods of preventing most of the communicable diseases. Then why are not the people becoming educated along this line as well as they are along the political and the industrial fields? The answer is, lack of education and interest on the part of the laity, health officers and local physicians. As progress in any desirable direction is made the intelligence of the masses will be awakened and exercised.

America with its wonderful resources and with its liberal form of government, furnishing wonderful opportunities to those that would advance has made phenomenal progress, and industrially stands today at the head of the world's list of countries, but how does this country stand as to disease prevention? Typhoid fever, thoroughly a preventable disease, has been in the last ten years over four times more prevalent in America than in Germany, Great Britain, Switzerland and other civilized countries. This disease decreases as sanitation increases. Why has this great American continent lagged so far behind in the prevention of disease? It is because we have been too busy with exploitation of other fields and have not given the time to disease prevention. Many of our magnificent cities, smaller towns and hamlets are not warned and advised against disease until they are awakened in the midst of

an epidemic. Tell the average business man that the annual typhoid death rate in his city is fifty per one hundred thousand population, and he is not particularly impressed with the information, but tell him that there's a few cases of cholera and he at once becomes most actively concerned, although one of these diseases is as preventable as the other, but the business man recognizes in cholera a menace to business interests and at once becomes alarmed.

When the masses of our people have become educated the needlessness of typhoid fever, and the annual death rate is reduced to five per one hundred thousand population and the community demands businesslike proceedings of the health authorities we will have reached a comparatively advanced condition of sanitary progress, when the people come to realize the danger of polluted sewerage water, dirty milk, and other food stuffs they will not have to be visited by epidemics to become alarmed and take precaution.

The nature and source of typhoid infections is caused by germs which are parasitic in nature and dependent upon man as their permanent host for their continued existence. The germs are discharged in the dejecta from the bodies of infected persons, from such dejections they may be conveyed by various agents, such as water, foods, flies, fingers, etc., to the alimentary canals of healthy persons, and so be continued on their disease and death-dealing course.

Therefore to prevent typhoid fever, all that is necessary is to disinfect the excreta from infected persons or dispose of them in such a way they cannot reach the mouths of non-infected persons. This seems simple enough, and if carried out on a broad scale would unquestionably be successful. Certain conditions however make the carrying out of this plan more difficult than it may at first appear, as some people continue to harbor and discharge typhoid germs for weeks, months and even years after an attack of this disease, others contract the germ and though never having a clinical attack of typhoid fever become germ carriers.

In order to safeguard any community it is necessary to disinfect all excreta from sick and well persons and have it properly disposed of. The people of a given community may use infected milk, water and various food stuffs com-

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ing from a distance over which the local officials have no control, hence the prevention of typhoid fever becomes a problem of county, State and National importance, thus making co-operation of communities, counties and states imperative for its eradication.

Between fields of activities in the prevention of disease there should be no twilight of zones. Communities and counties should co-operate with county and state officials. Between states there should be co-operation of national officials. Communities should co-operate against impure milk, food stuffs and water supplies. We often see merchants, dairymen and manufacturers of various food stuffs visiting health officials not for the purpose of improving the health of communities and cities but for commercial purposes only, that is, asking for some relaxation of laws thereby decreasing their expenses, and increasing their profits, regardless of the lives of the people in their community.

The forces to prevent typhoid fever in America are most ample, and an important part for our sanitarians to solve is how to get these forces applied. Is it the business of the average citizen to see that the health laws are enforced? Yes—Does he do it? No—It is left to the health officers of which we have too few. Instead of each county having a physician appointed to give about one-tenth of his time to his office, let the county employ one to give his entire time to his office as health officer, and when he has more to do than he can do let him employ capable assistants to help him. Before this health officer qualifies for his position let him stand an examination under the state health officers, and be required to pass a satisfactory examination, and when in office they should be required to visit the premises of all persons who have illness, whether contagious, infectious or not. If he finds a contagious or infectious disease, let him instruct the patient's family as to what they should do to prevent the spreading of disease, and then he should make weekly or semi-monthly reports to the state health officers of all diseases and deaths in his county. Compensate these health officers well. Pay them either by a good salary or place them on a commission basis. Pay him so much for each case he reports, and some health officers will do more efficient work. This mode will meet with a great

deal of opposition at first. First on account of the local physicians. The local physicians will not want to be dictated to by the county health officers, and will not want their patients meddled with; second, it will be hard to educate the laity to pay the increase taxes, that will be required to pay these health officers, but all laws and questions that arise and result in much good always meet with a great deal of opposition, but in this case it would soon be overcome and the laity generally would be much benefited, and when they saw the results of the sanitation they would heartily co-operate in the work.

Physicians should co-operate with these health officers as they are the first to determine the illness of the patient, the duty devolves upon them to notify the health officer and aid him to get all the precautions and sanitary measures carried out, and safeguard the family against the spread of disease. The physician may hold that it is the health officers duty to safeguard each community, but it is the physician's duty to assist him in every way possible, as the dejecta from one person may infect the whole community or city as was the case in the outbreak at Plymouth, Pa., in 1885, where in a city of eight thousand people eleven hundred of them became ill of typhoid fever, and one hundred and fourteen died, all of which was caused by the excreta from one patient, being thrown into the stream above where the city received its water supply. A little precaution at the bedside of this patient would have saved this city of infection and prevented one hundred and fourteen deaths. Two years ago a prominent citizen of Knoxville, Tenn., sent his family to Monterey to spend the summer. Within one week after their arrival four of his children became ill of typhoid fever, and they were immediately sent home, and they at once investigated the source of their infection, and they found that they had been using infected milk from a dairy in that city, and they traced this dairyman's wagon through the city and found a case of typhoid fever in every home this dairyman had supplied with milk. Occasional disasters teach in a startling way a valuable lesson, these outbreaks, however, compose but a small amount of typhoid infection occurring in this country each year. For the majority of infection is carried from home to home and from

community to community. In some instances infection may spread from a patient before a physician is called, but as soon as he does arrive he should take precautionary measures, and a greater part of its spreading is prevented.

Why do not practicing physicians co-operate as they should? The attending physician naturally hesitates to report a case as one of typhoid until he is reasonably sure of its diagnosis. In many cases the diagnosis cannot possibly be made from the clinical symptoms alone until about the tenth day and often longer. Infections frequently occur from the beginning of the illness, therefore all suspected cases should be handled as though it was a positive case, and all excreta should be disinfected and if the case proves not to be typhoid there will have been no harm done. The busy practitioner may feel that the time required to fill out the report card may be used more profitably, since the report of the disease is for the good of the community there should be a small fee demanded by the physician, say 50 cents, for each report, and he will be more careful, and will report all or most all suspected cases. Practicing physicians can prevent typhoid fever. First, they should become informed as to efficient methods of prevention to be carried out at the bedside, such information is readily obtainable. Any state health officer will be glad to supply any physician with all such literature. The physician should teach all precautionary measures at the bedside, report promptly to the local health officer, all cases recognized as, or suspected to be typhoid, advise and have carried out methods of prevention which are practicable. It is poor judgment to advise a poverty stricken family to use an expensive disinfectant. Fortunately, however, some of the best disinfectants are the cheapest, such as chloride of lime and carbolic acid, and the excreta can be disinfected by throwing it into an old kettle and boiling for thirty or forty minutes before being disposed of.

Continue preventive measures as long as the dejecta is infected. A good rule to follow along this line is to disinfect the excreta for two weeks after patient is up and around. Teach the importance of the proper disposal of the human excreta.

Give constant advice in regard to polluted water, milk and food supplies generally. Make

the local medical society a school of instruction in the principles of prevention as well as the cure of disease. Help to secure efficient health officers, and aid them in their work, help to create a public sentiment for proper sanitation and so aid the procurement of the desirable legislation, and with the co-operation of the health officers, physicians, communities, counties and state and with vaccination against typhoid we should eliminate this disease from this disease from this country within the next ten years.

TYPHOID FEVER.*

BY R. E. LEE SMITH, M. D.

Doyle, Tennessee.

I realize in presenting this paper, that this is a subject that is of a great deal of interest to the medical profession, and about which much has been written, and that I shall not be able to produce any new theory, nor to exploit any new revelation as to treatment: Should I say enough to elicit a full discussion I will feel that I have accomplished some good.

This is a disease of interest to every man in the profession, North, South, East and West for the reason we all see it, as it is one of the most widespread of the infectious diseases, occurring in any climate and any altitude—in fact, where man can live typhoid can and does exist.

There is no disease with a more interesting history. It was long confused with typhus fever, the distinction being brought about slowly, and it stands as an example of the difficulties which may attend the *recognition* of a disease. The views as to its nature have gradually changed from the old idea that the disease was due to, or the result of changes taking place in the body of the patient—to the fact that the cause is a specific germ—the *bacillus typhosus*.

As a result of this discovery, perhaps there has been much neglect to the body, as there are certain changes that *do* take place in the tissue cells that should have our attention.

The typhoid bacillus is the essential cause of the disease, but the means by which it gains admittance to the body are various.

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These intermediary bodies, however, are only carriers, for the bacillus is dependent on *man* for its existence, and although it may live for a time in water and various other articles, yet its life in such situations is comparatively short. Man, is the cause of the continuance of the disease, but there are many factors which influence the conveyance of the bacillus from one individual to another.

After the *identity* of the disease was established there were many theories as to the mode of infection. It would have been strange if, during the time typhoid was confused with other diseases, there had been any clear idea as to its etiology.

After its separation as a distinct disease explanations for its spread were sought and some of them contained a certain amount of truth although based on erroneous ideas.

The character of the water supply and the means of the disposal of the excreta, must be regarded as the most important factors which influence the occurrence of the disease in communities, while filth, bad hygienic conditions and over-crowding have a certain effect.

When men are living together under unusual conditions, as an army in the field, other factors appear and have an important influence, but under any condition or climate the essential thing which governs the occurrence of the disease, is the method by which the excreta are disposed of. Given the occurrence of typhoid fever, other factors become active, but as a rule, the statement stands that, the history of the disease justifies us in stating that *wherever* and *whenever*, men congregate together without adequate provision for disposing of their excrement *then* and *there* typhoid fever will appear.

The modes of infection, are numerous and while in a sudden epidemic it may be possible to determine the source of the infection with certainty, in the steady endemic occurrence, it may be very difficult or impossible. Take the ordinary community with its usual number of cases each year—the source of the infection is rarely if ever determined. One thing, however, we *do know* and *are sure of*—the bacilli—came from another patient, the *moral* of which is obvious.

It is probable that *direct* infection takes place more frequently than has been supposed.

In schools, armies, or where a large number of persons are crowded together, direct infection is a prominent factor. Those associated with or waiting on the patient may be careless and carry the bacilli on their own hands to the mouth or infect the food.

It is quite probable that those nursing a patient always get some bacilli on their hands and without great care *others* may be infected.

Some authorities claim simple contact, as a mode of infection, while this is possible, I think it hardly probable. Flying dust laden with bacilli will in most instances explain a large per cent of the supposedly contact infections.

Water must be regarded as a most important means of conveyance of the infection—as may be evidenced—in large epidemics and sudden outbreaks.

It may be very easy to trace the source of the infection to a water supply; for such epidemics are often explosive, and confined to the localities where the water supply is from the same source.

In cities where the water supply becomes contaminated or rather infected through carelessness in the care of excreta, these explosive epidemics occur and have been reported time and again.

Foods—as well as water are frequently the source of infection, most notably milk.

This fact is of importance where a town or city is supplied with milk from a common source—a dairy. There have been epidemics of typhoid fever that can be traced to the dairy supplying certain localities, the cases being confined to the regular delivery of the dairy. This may come from the water supply of the dairy becoming infected or from the hands of some one operating the dairy who has been in attendance upon some friend who has typhoid; or he may have had the fever many months prior himself, and be a typhoid bacillus carrier. These carriers are very dangerous creatures. This should cause those who are supplying the public to be scrupulously clean and run no risk for they may be responsible for much suffering and probably deaths because of their neglect. The bacillus lives with impunity in a freezing temperature, hence ice cream, can carry the infection.

Flies are a source of infection and much proof has been brought forward to prove this state-

ment. The fly carries infection in two ways—the infected material may cling to the legs and body and is deposited on food or the bacilli may be swallowed by the fly and be deposited later. It is estimated that the bacilli can live in the body of the fly for twenty-three days and for a number of days on the head and legs. This makes the fly a dangerous little “animal” to be buzzing around and a vigorous war should be made on them.

Conditions of soil was for a long time considered the most important factor in production of typhoid fever, but now since the discovery by Eberth in 1880 of the specific cause, the bacilli typhosus, we know that the *soil* has nothing to do with it except in cases of soil pollution. That soil can be polluted with typhoid bacilli is a fact that should always be born in mind and every effort put forth to prevent it by properly caring for excreta.

Filth and unsanitary conditions can not originate the bacilli; they must come from a previous source. Given their presence, it is evident that dirty conditions will render their distribution more likely as water and food may be infected either directly, or by *flies*, but *filth* can not be the *only* cause, any more than typhoid can originate from a water supply which does not contain typhoid bacilli.

The symptoms of typhoid are so varied and the manifestations so infinite in variety that from the outset, throughout the course, in termination, and in sequela we may expect anything.

Not only is there great difference shown by different patients, but the character in the same locality may vary greatly from year to year. One year having the rose spots in abundance, another few, or none, etc. It is quite important for us to realize that the classical description of the disease does not fit every patient, and this makes it very important to study the disease from the patient and not from the textbook alone. No symptom or sign is necessarily present, a point never learned by some men who refuse to make a diagnosis of typhoid unless certain classical features are found.

The most common features of the onset of the disease are headache, anorexia, diarrhoea, or constipation, abdominal pain, nose bleed, and general malaise.

Abdominal pain is said to be present in about 30% of cases. This fact should always be remembered as it may lead us into error.

A very deceptive mode of onset is that of severe abdominal pain, and oftentimes we are led to believe it to be some acute abdominal condition and the abdomen has often been needlessly explored. If in the upper abdomen, gall bladder disease has been made out, if in the lower right abdomen, appendicitis has been made out, and so on.

Hot applications will usually relieve the abdominal pain of typhoid, which it will scarcely influence in other troubles and help us very much to make the distinction. Too much emphasis can not be laid on the possibility of mistaking the abdominal pain of typhoid for that due to appendicitis. The combination of pain, tenderness, rigidity and muscular spasm is not to be found in typhoid fever aside from complications. This should guide us in making a diagnosis. The character of the early fever curve is of interest, while the steplike rise so often described is not uncommon, yet in many instances the fever attains a maximum by the third or fourth day. As a rule, however, by the end of the first week the temperature reaches 102 to 104 degrees by which time the appearance is usually quite distinctive. The face somewhat flushed, an anxious look, eyes bright, patient easily confused and mind acts slowly, patient having difficulty in remembering occurrences exactly, and may have trouble in giving time and dates, the tongue coated and white, breath foul, the abdomen usually distended and gurgling in the right lower quadrant, constipation, or diarrhoea, with a pulse rate slower in proportion to the temperature, and a palpable spleen gives us the clinical picture of typhoid fever. Situated in the country as we are our diagnosis is made from the clinical features. There are many aids to early diagnosis, when the services of a good bacteriologist can be had, who in nearly all instances can isolate the germ from the feces or urine and by the Widal test.

These symptoms exaggerate from week to week until the fourth week when convalescence, in favorable cases is usually fully established, the temperature declines and all symptoms improve, and unless complications arise the patient slowly but satisfactorily recovers.

One feature of the disease not yet mentioned I will now call attention to viz.: Perforation. This is one of the most serious complications that can arise during the course of the disease. A large per cent of the *deaths* from typhoid is from this cause. About 2% of all cases have perforation. The period when it occurs is most frequently the third week. We should be on the alert, for it may occur sooner, or even later. The most frequent site is the ileum. We need to carefully study the symptoms of perforation, as upon a quick diagnosis depends the salvation of our patient, the treatment of which is now surgical. The first symptoms in the majority of cases is sudden, sharp, severe abdominal pain. The mode of onset is the most important point in its recognition. The pain is usually paroxysmal, rarely ever constant.

Between the attacks the patient is fairly comfortable and shows no definite symptoms, so that it is of importance to set down by the bedside and watch for some time, as a rule, the pain will recur in a short time—with the pain, complaint may be made of the bladder, and frequent micturition. On palpation there is usually marked tenderness in abdomen—most usually localized.

With suspicious signs careful notes should be taken at once as to the general symptoms and local condition as to the degree of distention, the amount and location of tenderness and the presence of rigidity, and hourly records of the pulse, temperature and respiration. This is lots of trouble, but it must be recognized, that if an early diagnosis is to be made of perforation we must put forth every energy to do it. One caution I would add, viz., never give an opiate until you are sure of a diagnosis. Opiates mask the symptoms and are out of the question. Much more could be said as to this and other complications but I fear I may weary you by much speaking.

We cannot proceed further without a few words as to prophylaxis, which is the most important problem of typhoid fever, and in the past, too little attention has been paid to it—for while we have been willing to give every attention to the patient with the disease we have failed to carry out adequate preventive measures. We talk of infected water, or milk, as if they were the cause of the disease, forgetting that behind them lies the actual source.

Typhoid bacilli do not naturally inhabit milk or water, they may exist in it and even multiply for a time but their natural dwelling place is in man and these are only carriers from one host to another. The lesson is easy to learn but hard to carry out or put into practice.

Let us make sure that every typhoid bacillus is killed immediately after leaving every host and the disease is at an end.

If this could be done with every patient in the U. S. this year, where would the epidemic of next year be? But there are difficulties in the way. Many cases of mild degree are not recognized and form a great source of danger. Yet every thorough measure of prophylaxis counts. Its easy to prevent many epidemics if proper care is taken.

To remember this one fact, viz., that man is the home of the typhoid bacillus and upon him they must depend for the perpetuity of their race will save many from having the disease. Now, if man knowing that he carries an enemy in his body will devise a plan by which they can be killed as fast as expelled, then as already said, the disease will be at an end.

Just a few words as to treatment, and I shall have finished.

The most important points in the treatment are simplicity in the method, care in nursing, constant watching, and common sense throughout. We *can not abort* the disease, we have as yet no specific treatment, and the problem is to bring the patient through a severe infection. We should know our limitations, and the danger of misdirected zeal.

It can not be repeated too often that there is no routine method of treatment. Every case is a law unto itself. Every *patient*, as well as the *disease* must be considered, and the words of Oliver Wendell Holmes may well be kept in mind—that, "if a doctor has science without common sense, he treats a fever, but not this man's fever. If he has common sense without science, he treats this man's fever without knowing the laws that govern all fevers."

Our duties do not end with treatment of the patient. It is of as much or more importance that the community be saved from infection, as to bring the one patient safely through the attack. There is just as heavy a responsibility on us to see that the patient's urine and feces

are thoroughly disinfected as to be able to recognize a perforation early enough to give the best chance for recovery. To make a prompt diagnosis of perforation is quite necessary, as its treatment is purely surgical and must be attended to at once or we lose our patient.

Can we cut short an attack of typhoid fever by any treatment? There is no proof that we can. (Dr. Melton to the Contrary.)

The infection having occurred; so far as we know, it can no more be aborted than can measles or scarlet fever be aborted. The course may be modified but more than this we *can not do*. We have learned, slowly, that this is a disease not to be treated with drugs. Care in diet—nursing and hydrotherapy are the most important measures. Drugs may be useful in certain conditions, but do not enter into the essential treatment. Care and nursing means much, and in no disease do we receive so much aid from an intelligent nurse.

The hospital offers many advantages over treatment in the home and should be taken advantage of whenever possible.

A large, airy and well-ventilated room should be chosen and the amount of light admitted that is most comfortable to the patient. In summer the patient may spend the greater part of the day out of doors. The bed should be a single one provided with springs and a mattress of medium hardness, covered with a rubber sheet. *Absolute rest* is very essential. Absolute rest involves the prohibition of visitors. The fewer people the patient sees the better, but this is hard to control in the home. Absolute freedom from business, and cares of life are to be insisted upon and enforced as nearly as possible.

There should be careful attention paid to the mouth. Cleanse the mouth, tongue and teeth after each feeding and use an antiseptic mouth wash.

Absolute cleanliness of the body is essential, and special attention should be given the back, which should be rubbed with alcohol and dusted with boric acid powder.

The stools should be carefully watched and the physician should see one every day or two. By this he can see if the digestion is going on

properly, whether there is blood in it or not and much valuable information can be obtained by so doing.

Care must be taken to keep flies from getting into the stools or urine. Constant attention must be given to the disposal of the excreta, and specific directions should be given as to how to care for them. Flies should be excluded from the sick room.

Simplicity and efficiency in diet are two important things to be desired.

The food should be fluid and easy of digestion and absorption. The main reliance must be milk in some of its forms, and there are but few who can not take it. Albumen water, made by beating two or three eggs with a little water and strained, to this add some more water and lemon juice, affords us a very valuable food and refreshing drink.

Other foods, as barley water, soups, tea, coffee, etc., may be given at times but should not supplant the milk and eggs.

With the feeding goes another equally important point—the giving of water.

The need of large amounts of water is often forgotten. Every adult patient should be induced to drink six pints or better twelve pints of water daily.

This will add very materially to the comfort of the patient, not only by lowering temperature but by flushing the bowels and kidneys, the two avenues of escape for the infectious material.

These general suggestions will be, in the main if carried out rigidly, sufficient to conduct the majority of patients through to a safe termination.

There are many other special measures that might be simply mentioned, that may be used. Each of these having their enthusiastic admirers, viz.: Hydrotherapy in the form of baths, packs and sponges. Elimination treatment. Expectant treatment, etc.

Each case being a law unto itself we are left to select for the *individual patient*, that, most needed for it. I have purposely left out any mention of vaccination against and serum as a treatment.

PERFORATION OF THE GALL BLADDER
WITH REPORT OF SEVEN CASES.

BY BATTLE MALONE, M. D.

Memphis, Tenn.

The cases which I wish to report to you today have constituted a series of surgical surprises. In only two of the seven cases was anything approaching an accurate diagnosis made, and one of these two was not confirmed either by operation or autopsy. My failure to properly diagnose these cases has not differed from the experience of other surgeons, but there is little consolation, and no incentive to better work, in placidly accepting the mistakes of another as an excuse for one's own. Since I sent to our secretary a notice of the preparation of this paper, McWilliams has published—*Annals of Surgery*, February, 1912—all of the reported cases of free perforation of the biliary system, 108 in number, and those desiring to go fully into the literature of the subject should read his very excellent presentation. It is my intention only to proffer a few practical suggestions in the diagnosis and treatment of the condition, in addition to reporting the cases which have come under my care.

Experience with any number of these cases quickly impresses one with the analogy between perforation of the gall bladder and perforation of the appendix. In each we meet with acute free perforations with septic peritonitis, and with chronic perforations with limiting adhesions and localized abscesses. In the recent series of cases, four have been of the free perforative type and three of the chronic.

The chief interest in this complication lies in its diagnosis. We are, I think, thoroughly familiar with the etiology and pathology of gall bladder disease and so can understand how it could happen that an ulcer, usually from stone pressure, would perforate.

In going into the symptomatology and diagnosis of gall bladder perforation we must immediately adopt the classification suggested above. There is a much wider difference in symptoms between free, and chronic perforations of the gall bladder and the two like conditions of the appendix.

In free perforation of the gall bladder, if an accurate history of preceding gall stone colic is at hand, a correct diagnosis should be made, while on the other hand the symptoms of acute infection of the gall bladder with pericholecystitis are practically identical with chronic perforation and abscess, and it is practically always only by laparotomy that this complication is recognized.

Taking up first, then, the diagnosis of an acute perforation—the ability to differentiate between this and a perforated gastric or duodenal ulcer would depend entirely on the previous history, and in the absence of definite symptoms, pointing to pre-existing gall bladder disease, or to either of the other conditions, a diagnosis could be arrived at only by laparotomy.

As a rule, it is not difficult to recognize promptly a free perforation of the appendix, but this might readily be confused with gall bladder perforation, especially if the appendix were situated high up. Aside from careful attention to preceding history there would be no way short of laparotomy to clear up the diagnosis. I operated on a case some years ago in which a gangrenous ruptured appendix was adhered to an inflamed gall bladder.

In a number of reported cases "mistaken diagnosis of volvulus, acute obstruction due to a band, and strangulated umbilical hernia have been made" (Moynihan). The symptoms of obstruction are of course present, but as is true of every perforative peritonitis the obstruction is of the adynamic type and should not be confused with a mechanical obstruction.

There is one other possible mistake which should be mentioned, and that is, that we should not mistake a perforation for a very severe colic, and if we obtain a clear history of preceding gall stone disease this is a more likely as well as a more dangerous mistake than the confusion with perforated gastric or duodenal ulcer. It is quite unlikely that any one would, if expecting a gall stone colic in a given case, recognize a perforation promptly, and while a free perforation of the gall bladder is a rare accident it occurs sufficiently often for the surgeon to always bear its possibility in mind. The importance of quickly distinguishing between a severe colic or infection and a perforation should be emphasized chiefly for the reason that we do

not care to operate in the presence of an acute gall stone colic, or an acute gall bladder infection, while with an acute perforation we know that a prompt operation is of the utmost importance. For a differentiation here we would have to depend upon the more or less rapid development of symptoms of a spreading peritonitis—chief among which would be increasing spreading abdominal rigidity and tenderness, and a more generalized pain.

As to the chronic perforation with localized abscess, there is no way to distinguish this from empyema of the gall bladder, with pericholecystitis. We may, in fact, have an abscess around the gall bladder, without any perforation. A careful analysis of the cases of this type which I report will show, I think, that the fact that the gall bladder is perforated cannot be known. In each case we recognize before operation that there was pus in or around the gall bladder; further than this cannot be told before operation.

A few words as to treatment. Of course in a free perforation of any hollow viscus the rule can only be prompt laparotomy. As to what is to be done after the abdomen is opened there is a great difference of opinion. Probably as nearly a definite method of procedure as can be laid down is that given by Mayo Robson, who says, "Should marked cholecystitis be found, the question of cholecystectomy may be worth considering; but when the patient is in a critical condition, it is a mistake to attempt too much, and, as a rule, cleansing and free drainage will be all that is necessary or advisable at the time, the removal of the cause being left until the patient is better able to bear a more prolonged operation."

As Moynihan says, the cases have been too few for one to attempt to formulate any rules to govern one's procedure. Chronic perforations of course demand drainage, both of the abscess cavity and directly of the gall bladder itself, with removal of stones. As a rule it would probably be better not to attempt to explore the ducts at this time, as it would be poor surgery to break up adhesions forming the abscess wall in such an attempt.

The following cases are reported in the order in which they came under my observation:

Case I.—Mr. H., male, aged 54.

Previous history contained nothing which would throw any light on the present illness, except a vague account of some slight digestive disturbance.

He was taken sick February 14, 1909 with typical severe gall stone colic, which was relieved by one one-half grain dose of morphine. There was no recurrence of colic, but some pain, and marked tenderness of the gall bladder persisted. Temperature never over 100 degrees—no jaundice. On the fifth day there was a moderate leucocytosis with 84% polys. A diagnosis of empyema of the gall bladder, with stones, was made and operation done on the eighth day of the attack. The usual incision was made, which led, on opening the peritoneum directly into an abscess cavity containing about six ounces of pus and bile, with a large number of stones outside of the gall bladder. A large drainage tube was fastened in the cavity. The perforation itself was not located, because to have done this would have necessitated breaking up adhesions, which I did not feel justified in doing, and I felt quite sure that a secondary operation would have to be done. For four or five days small stones—20 in all were discharged, with a copious flow of bile. The patient made a good recovery, leaving the hospital in fourteen days. A fistula discharging bile persisted for four months. He has had two attacks of colic since—one six months after the operation, the other in December, 1910—neither severe enough to require morphine. When I saw him last, a few months ago, he said that he was having no trouble, but I would not be surprised at any time to know that he had a recurrence of gall bladder symptoms, as I have always felt that some stones were left behind.

Case II.—G. D. B., female, age 56, white, married.

Patient first seen April 30, 1911, with Dr. W. H. Baldwin, under whose care she had been. She was frail in appearance, moderately emaciated, with a history of never having been robust. Had had an attack of colic January 5, 1911, with some evidence of infection which subsided in eight days. On April 18, 1911, there was another attack of colic, much more marked, with symptoms of peritonitis confined to the right side of abdomen, and the development of a mass, 5 inches in diameter, located with its center just

above McBurney's point. A preoperative diagnosis of appendiceal abscess was made. Operation May 1, 1911. The "abscess" contained only bile and fine flakes of lymph deeply bile stained—no stones in cavity—drainage was provided and the gall bladder not exposed. The abscess cavity closed in very quickly, the drainage being discontinued on the sixth day. Patient went home with wound entirely healed in two weeks.

Case III.—Mrs. E. C. A., white, female, married, patient of Dr. Louise Drouillard. This is a most interesting history.

Previous to 1892 she had several attacks of gall stone colic, one time in 1892 she had a very sure attack of the colic. She was attended by Drs. Chas. Briggs and Cleveland, of Nashville, who were of the opinion that the focus was appendiceal. Because of the very unfavorable outlook Dr. Briggs advised against operation. She made a very tedious recovery and was left with a mass in the middle of the right side of the abdomen. In the following year, 1893, she was under the care of Dr. Nicholas Senn, who did not give the patient or her husband a diagnosis, but advised against operation. The mass had persisted up to the time I saw her, in May, 1911. She had never had any further colic but had suffered more or less pain in the tumor and had some digestive disturbance. When she over-exerted she would have to go to bed—sometimes for as long as a week—and this happened two or three times a year. It occurred to me, first, that the mass was retroperitoneal and connected with the kidney. The percussion note over it was tympanitic. Urinalysis showed some pus. Ureteral catheterization showed the right kidney excreting one-third of the total amount of urine. The X-ray showed a stone in the middle of the mass and while Dr. Lawrence, who made the radiograph, professed to outline the kidney distinctly above the mass—I could not. Operation was finally undertaken without a definite idea of what we were to find. The incision quickly showed that the bulk of the mass was a myositis, the abdominal muscles being thickened to the extent of about three inches. Within the abdomen there were extensive, dense, old adhesions, the omentum hepatic flexure, duodenum, stomach and gall bladder being matted together so that they were

with the greatest difficulty even in part freed. The gall bladder was merely a dense fibrous tag, with its cavity completely obliterated. This was removed. In dissecting the stomach from the parietal peritoneum we came upon the stone, which the radiograph shows, imbedded partly in the abdominal and partly in the stomach wall, and projecting into the stomach. No positive assertion can be made as to how it reached its resting place, but in view of the history of peritonitis, extensive evidence of which we found, my opinion is that there was in 1892 an acute free perforation of the gall bladder, the stone which escaped at the time being caught in adhesions between the stomach and parietal peritoneum, slowing eroding its way in both directions. Why the patient did not have more gastric disturbances is to me one of the most remarkable features of a remarkable case. The opening in the stomach was closed with a double row of sutures, after paring the thickened edges. A split tube was carried to this point when the incision was closed. The very free drainage for three or four days caused considerable uneasiness for fear of a gastric fistula, but the drainage ceased entirely in two weeks' time. The old mass (myositis) disappeared promptly under the influence of the X-ray, as soon as she was able to have this used. Through the patient's husband I learned on April 2, 1912, that she had gained twenty pounds and had no further pain or tenderness and no digestive disturbance; in fact has been in perfect health except for some menstrual irregularity, thought to be incident to the menopause.

Case IV.—M. K., white, male, age 49. Seen in consultation with Dr. A. W. Rudisill, July 6, 1911.

He was in the second week of typhoid fever. Temperature was ranging from 101 degrees to 103 degrees. He gave a history of a number of attacks of gall stone colic. Jaundice marked. Leucocytosis 15,000—85% polys. Rigidity and marked tenderness over upper part of right rectus muscle. Diagnosis—acute infection of gall bladder—probably typhoid. Urotropin was given and an ice bag kept over the gall bladder region. We wished, of course, to avoid operation during the typhoid if possible. This treatment was kept up for some days, but the high polymorphonuclear leucocytosis persisted,

the patient appearing more septic. Operation was done July 13, 1911. The gall bladder was found perforated and communicating with an abscess cavity, containing about two ounces of bile-stained pus. There were two or three small stones in the abscess and four or five in the gall bladder. A tube was fastened in the gall bladder and the abscess cavity also drained. The patient did fairly well for three days. There were never any further unfavorable symptoms referable to the gall bladder, but on the fourth day and night he had several copious hemorrhages from the bowel and died in a few hours.

Case V.—Mrs. C., female, age 35, married, service at St. Joseph's Hospital, which she entered July 7, 1911.

Patient a fairly well-nourished woman gave a history of two weeks' illness, beginning with severe colic, pain and tenderness, localizing at point of ninth costal cartilage. History of continuous temperature. No jaundice at any time. No previous colic. From the time of her admission to the hospital the temperature ranged from $99\frac{1}{2}$ degrees to 101 degrees, gradually subsiding until it remained normal on the fifth day. There was a 82% polynuclear leucocytosis on the day after her admission. The tenderness and rigidity over the upper end of the right rectus was persistent. A diagnosis of suppurative cholecystitis was made, but there was no suspicion of a perforation. Operation July 15, 1912, showed a pus cavity containing two or three ounces of bile and pus and one stone. Another stone was plugging a one-half inch ragged perforation of the gall bladder. A tube was fastened in the gall bladder and the cavity also drained. The patient went home in two weeks with no drainage persisting and the wound practically healed.

Case VI.—Mrs. H., white, female, married, age 58. This patient was seen with Dr. J. F. Cochran, September 1, 1911, 8 p. m. He had been called first about 4 o'clock that afternoon. She gave the history of having had gall stone colic—several attacks—eight or ten years ago, since which time she had been in good health. She was taken with sudden severe pain about 2 p. m., September 1. One-half grain of morphine at four gave little relief. When I saw her at eight p. m., the pain was violent, and tenderness

extreme over the right upper quadrant. Pulse 120, temperature normal, nausea and vomiting marked. We diagnosed severe gall stone colic, neither of us having a suspicion of perforation. Two half grain doses of morphine during the night gave no relief. We saw her at 8 a. m., September 2, and found her still suffering—pulse reading 130 and thready, rigidity marked on right side of abdomen. I was quite sure that there had been a perforation of the gall bladder and she was sent to the hospital at once, thinking that during the "interval of repose" we might operate. She was much worse when she reached there, however, and did not react to any stimulation, sinking rapidly and dying at 9 o'clock that night, only thirty hours from the onset of the colic. The infection must, of course, have been extremely virulent. While no autopsy was permitted I think the diagnosis of gall bladder perforation was correct.

Case VII.—J. W. L., age 58, single.

Patient of Dr. R. E. Howard and seen with him at Durant, Miss., February 15, 1912. Family history poor, father, one sister and one brother dying with cancer and one sister with tuberculosis. Patient is an alcoholic, and has had alcoholic neuritis. History of digestive disturbance for years, but no colic. Patient was not in a condition to be quizzed too closely as to the character of the "indigestion." He had slight colic on February 11 and on the night of the 12th had a violent attack of pain in the upper abdomen, which was controlled only by repeated large doses of morphine. Nausea and vomiting was almost constant from this time, becoming stercoraceous on the 14th. His temperature ranged from $99\frac{1}{2}$ to $100\frac{1}{2}$, pulse from 100 to 120. No bowel movement after the severe colic on the night of the 12th. Abdominal distention gradually increasing. When I saw him the afternoon of the 15th he presented all the symptoms of an intestinal obstruction of the adynamic type. There was marked tenderness and rigidity on the right side of the abdomen and marked abdominal distention. Patient's pulse was 100 and of good quality. A diagnosis of perforative peritonitis was made, but no guess was made as to whether the perforation was of the stomach, duodenum or gall bladder. Operation was done immediately. Incision through the right rectus showed as soon as the abdomen was opened

that the lesion was of the gall bladder. The omentum and intestine were bile stained and a large amount of bile-stained pus escaped. As soon as the gall bladder, which was covered by recently adhered omentum could be exposed we found an opening one-half inch in diameter in the fundus. No stone could be found in the gall bladder and if there was one free in the cavity we did not find it. A tube was stitched in the gall bladder, a split tube brought out through a lumbar stab and gauze left under the liver and the outer side of the hepatic flexure and the wound closed. A very unfavorable prognosis was given in which we guessed wrong as the vomiting ceased at once, bowels moved in 36 hours and convalescence was complicated only by a persistent and troublesome diarrhoea. The tube was removed from the gall bladder at the end of two weeks and the fistula closed almost immediately.

DISCUSSION.

ON THE PAPER OF DR. MALONE

DR. W. A. BRYAN, Nashville: I did not hear all of the doctor's paper, but I got the trend of it pretty well, and while these cases are rare, they constitute one of the emergencies that come to the surgeon. I have seen three cases that I can recall now in which there was perforation of the gall bladder, and every one of these cases had been diagnosed as gall stones, but none had been diagnosed as perforation of the gall bladder except one. This first case was one in which the bile ducts had ruptured and there was an accumulation of fluid localized in the lesser peritoneal cavity. The patient was extremely septic. The next case was one in which the gall bladder was distended and cystic, and there was a large stone in the cystic duct. There were other stones present, and there had occurred ulceration towards the liver through the gall bladder, and the stones were escaping into the liver substance. In this case there was a large accumulation of fluid in the gall bladder, the patient having just had an inflammatory attack. The gall bladder was removed, and the patient recovered.

In the third case the cystic duct was completely blocked by cicatricial tissue, yet the stones had perforated into the liver, the gall bladder was contracted, and contained only stones, which were removed. Patient made a good recovery.

Some one has made the statement—I cannot recall the name of the author just now—that in cases of perforation of the bile ducts and gall bladder, in which

the bile is allowed to escape into the free peritoneal cavity, one of the early evidences of this condition being present is the appearance of jaundice which begins at the navel. I cannot vouch for the statement, but it was made authentically by some man. I believe that in this condition we should be able to diagnose a case of rupture of the gall bladder or of the bile duct with some degree of satisfaction. Of course, where we have that symptom long enough, we will recognize it, but when we consider the number of conditions that may appear in this region, and the extreme difficulty the upper right side of the abdomen present to diagnosis, in which we think of ulcer of the stomach, of inflammation that may occur, of peritonitis that may occur from chronic rupture, perforation, and think of acute perforation that may occur, we cannot determine in all instances whether it is the gall bladder, the stomach or the duodenum. But the fact remains, and I believe that in the majority of cases, if we watch the case for a few hours to see whether the patient has elevation of temperature and increased pulse rate, watch for the development of jaundice, and study the case properly, we may be able to recognize the presence of such a condition, and, even if it is not positively the gall bladder which is at fault, we should go into the abdomen and determine what the condition really is.

There is one other point in cases of this kind, namely, if the pathologic condition is localized it is a different matter. In these cases of free rupture in the upper abdomen we deal with them practically as we do those in the lower abdomen. What we have to do is to save the life of the patient in case of emergency, and it may be necessary to open the abdomen, deal with the pathologic condition, and get out as soon as possible. If we can under favorable circumstances remove gall stones from the common duct or do some other operation that may be necessary, though we may know it is necessary at the time, it is much better that a delayed operation, for anything other than the emergency be done, for a large amount of shock would kill the patient at the time of the emergency operation.

DR. MALONE (closing discussion): Dr. Bryan speaks of the fact that in these cases of free rupture, where the bile gets into the free peritoneal cavity, we have jaundice occurring and appearing at the navel. That may be true, but we do not want to wait in opening the abdomen until this sign can make its appearance on the skin, as the jaundice is absorbed by the blood and by the skin. By the time it appears the patient is usually in a hopeless condition. I tried to bring out in my paper the point mentioned by Dr. Bryan, but did not do so clearly enough, that it does not make much difference whether we recognize free perforation of the gall bladder or not; that is, whether we can tell from the outside the rupture is of the gall bladder,

the stomach, or the duodenum. It does not make much difference, as we do the same thing. We are going in and find out what organ has perforated and close it up if we can. But the great danger is in failing to differentiate between acute gall stone colic and the perforation. The symptoms come on the same, and there is no way of telling at the outset whether we have severe gall stone colic or perforation. It is not best to operate on a patient in an acute attack of gall stone trouble. It is better to wait until he gets over it. This is a point that is recognized by all surgeons; whereas we must operate in the other condition of perforation early if we would save life. The only way to tell that is to be on the alert, to recognize the possibility of perforation, watch the patient closely, and if he has spreading tenderness and rigidity and more generalized pain than a patient usually has in colic, you will be able to tell within a few hours. But you can tell it by watching the patient closely and give him the benefit of an operation.

BANQUET TO DR. WITHERSPOON.

On the evening of July 3, the Hermitage Hotel was the scene of a meeting of medical and business men about the festal board to do honor to our distinguished confrere and fellow-citizen, Dr. Jno. A. Witherspoon, President-elect of the American Medical Association. The occasion was a joint banquet given by the Nashville Academy of Medicine and the Nashville Board of Trade and in point of excellence was one of the brilliant affairs one rarely has an opportunity to attend. The capacious dining hall of the hotel was filled with Nashville's most prominent professional and business men, amongst whom were to be found several admirers of the distinguished guest from out of the state. After an excellent menu, with just enough of "sparkling water" to loosen the wit and wisdom of the speakers, the guests were accorded a treat never before equalled in the writer's experience, by eloquent responses from those selected for the occasion. Nashville had been combed, with a fine tooth comb, for men to equal the occasion and they did it.

After an exceptionally well-presented and beautiful tribute to Dr. Witherspoon, by Doctor R. E. Fort, the toastmaster, Dr. A. B. Cooke was asked to respond to the "American Medical Association, What It Is and What It Stands For."

The speaker paid a beautiful tribute to the honored guest and then proceeded to open the eyes of the laymen present (also some of the doctors) as to what the American Medical Association really stood for. In his usually pleasing style and with faultless diction he recalled advances made by the American Medical Association and repeatedly brought the house down with some telling point, like the advance in Medical Education or the accomplishment of the Panama Canal through medical aid. He, with much profit to all present, briefly reviewed the work of the Association in all of its several departments.

No banquet in Nashville, in which medical men were to participate, would be complete without a word from Nashville's gifted surgeon, Dr. Haggard, who responded to the toast, "The South's Contribution to Medicine." We regret that we are unable to present to our readers, Dr. Haggard's capable address, but it is needless to say that a careful review and beautiful tribute was paid to the South's favored sons who have done so much to advance the cause of American Medicine.

It is to be regretted that the address of Mr. John Bell Keeble, one of the South's leading attorneys, could not be preserved and published, he responded extemporaneously to the subject, "The Battle Cry of Achievement." The thought developed was that the success of the honored guest should be an inspiration to buoy one up when disappointment over failure seems to swamp us. Like the Mar-sellais inspires the French soldier; Dixie, the Southern soldier; the Star Spangled Banner, the American soldier, so should the success of our eminent men be an inspiration to us all.

Chancellor Kirkland reviewed the history of Medical Education and dwelt upon the advances which had recently taken place and the reasons therefor. He paid a splendid tribute to Dr. Witherspoon not only for his part in this beneficent and radical advance, but as a man, a teacher and a citizen.

Mr. F. O. Watts and Mr. Leland Hume, both responded fittingly and injected much humor into the occasion.

The address which we take pleasure in reproducing below was delivered in the peculiar and inimitable style of its author, one of Nash-

ville's foremost attorneys, Mr. John T. Lelyett. It pays the doctor a tribute we think he deserves, and we are glad to be able to treat our readers to it in full.

The response by Dr. Witherspoon to these addresses was a modest and unassuming effort. Assuring his friends of his great gratitude over such expression as he had listened to, he closed with promise of making still greater effort in behalf of Medicine and our Southland.

MAN'S FRIEND, THE DOCTOR.

BY JOHN T. LELYETT.

Nashville, Tenn.

Mr. Toastmaster, Our Honored Guest, and Gentlemen:

I would be less than sincere if I did not feel and express pride and pleasure in the opportunity given to me tonight to add, however, slight, a testimonial to our distinguished guest, and incidentally, to his great profession.

Our guest has lived among us many years. He has, by his superior talent, application, good qualities and unselfishness built up with us a great esteem and high character as a physician, and as a man, he has won our love and affection by his kind manliness.

He has, although in the front ranks, and busy with a large practice, with sufficient gains close at hand, been unselfish enough to step aside to so accomplish himself as to attract the attention and secure the endorsement of the greatest body of physicians and surgeons on earth, the American Medical Association, and in receiving this honor, he has, in turn, reflected honor upon us who tonight represent his state, his city and his home.

It is fitting that a man of his professional eminence should live in Tennessee, and in its capital city, for here we live in the very shadow of the home of the nation's greatest chief, Andrew Jackson. And before the lives of any in this assemblage tonight, this city was the noted rendezvous of men whose fame and deeds have been pictured in the halls of national fame, and in all of the times since her infancy, whether in acts of civic virtue, in professional attainment and achievement, or in the real strife, where the roll of drum inspired to battle array, Nash-

ville has been the pivotal-spot of the great and justly named Volunteer State.

I congratulate our talented guest tonight upon his success. I rejoice in it as a fellow citizen and friend. I congratulate his state and city upon this justly earned triumph, and I congratulate his brother physicians on this stride in the march of this great and progressive profession.

It is a profession which comes close to the bodies, minds and hearts of mankind. It has been nourished and has grown upon the trust and confidence of the world, and deservedly so.

From the beginning, doctors of medicine, of learning and of law were ever seekers after truth, and they have in the medical profession had the courage to stand and fight for its maintenance. In my opinion, this quest is the highest attainable in human life.

There were doctors learned in the law and perhaps in medicine, who talked with Christ in the temple in his twelfth year. They have never been afraid to try to find out. They have fought ignorance and knavery since the days of amulets, charms and witchcraft, and from the dens of iniquity and quackery they have rescued by honesty and courage millions of bodies and souls blinded by fear and superstition.

They have not been afraid to take up arms in war for truth, honor, or the glory of a righteous cause; and, more than that, they have by thousands and thousands stood unarmed in the field hospitals when their country was engaged in battle, giving up their lives to shrieking shells and other engines of death in a noble effort to allay suffering and save the lives of stricken humanity.

They have not feared to leave homes, wives, and children to go into those stricken countries where grim pestilence hung like a black pall, and where the air was charged with the poison of death, to minister with loving hands and smiling faces to those upon whom this grim monster had laid its chilling touch.

They have not feared to take desperate chances in remote spots, removed from advantages and aid, and with the courage of Spartans, stake their lives and reputations upon single judgment in an honest effort to relieve mankind.

It has been a broad and generous profession. Doctors have for all time submitted in kindness to the impositions on them by their pa-

tients as the general advisor in families, in serious matters outside of their profession, without remuneration or reward, bringing by their intelligent advice and aid much success and prosperity to trusting and admiring patients. This has broadened him, made him kind and tolerant. It has taught him to bear the burden of diversified responsibility and given him a veritable storehouse of general information.

It has been necessary for him to learn that it is a life of sacrifice, for in the necessity of doing for others, he has learned that he has little time to do for himself.

Like all great professions, the medical profession has been the target of much criticism which is modified and tempered in just recantation by the fact that all who have criticised him come finally to appeal to his judgment and honor in the hour of greatest need, and also by the evidence of our hearts which refute this distrust when we confide to him not only our lives, but more importantly the lives and welfare of our beloved ones.

He is the recipient of our closest confidences. We lay bare to him the secrets of our poor bodies, and the sordid story of our abuses of nature and her great and good gifts to us; and while we can remember that there was a traitor among the Apostles, and that the most brilliant and attractive soldier of Washington's day made of his name by treachery an epithet of shame, yet we cannot recall to mind a great doctor who has stained his name or that of his profession by betraying a secret sorrow or misfortune confided to him by trusting patients.

He carries his secrets to that mausoleum to which he, like us, must finally come. He has ever been free and gracious with his talents and skill and it is of common knowledge that it is not necessary through his kindness that the poor and needy should suffer for medical aid.

It is a part of the ethics of this great profession that in time of need and emergency its skill is offered free to suffering mankind.

It is of record in thousands of notable instances that by his application and genius he has discovered wonderful remedies and cures which he has refused to monopolize and has turned over without charge to the free use of the world.

He is mankind's friend from the cradle to the grave.

He is the first confidante and friend of the young mother in the initial mysterious pain and woe which racks her body and disturbs and alarms her innocent mind. His is the hand and his the voice which encourages and sustains her through the awful stages of pain necessary to bring mankind to life. He is the first with tender hand and loving sympathy in assuring the breathing infant, and he deposits it as a living charge with her who has risked her life for it, and who in its birth by suffering has joined, through agony, the angels whose very name is a touch of reverence, and whose attributes are tenderly inscribed in the hearts of every honest man in the sweetest of English words, "Mother."

He never turns back when he has enlisted for the sick. He faces poverty, disease, infection, vice, with the same intrepid spirit because in the great faith of his heart he believes the curing of men is a charge from God.

He rides when the world sleeps, and he must go when weary or sick, but he must go, with a brave heart and smiling face because there is no sulking tent for the doctor. He must stand the test of courage; he must close the eyes of the dead and go on and on to the bedside of the living, leaving with the dead the sting of defeat and the infection of sorrow, for the living must have no hint of this. The garb of mourning must not be carried into the sick room. It must be quickly changed at whatever cost, for the patient's good, to that of hope and good cheer.

His private interests must be foregone for it is the law of his profession that the call of humanity is supreme, and he must lay aside pleasure, joy and rest to answer the imperative call of the duty which he has assumed when he entered the ranks of this great profession. He has trying times in foregoing what he likes, because it is assumed in his undertaking to get these things for others that he waives them for himself and his interests.

In his life he must face the fact that he is credited with success as his duty only, and condemned without stint for failing. He must have sympathy for all, and patience with his sick, because the patient demands the one and success requires the other. He must tell the truth,

and the great doctor would as soon desecrate the cross as to deceive a trusting patient with a lie.

His kindness gained from habit and patience makes him the beloved of the children in the household, and the mainstay of the mother whose anxious heart is searching for news or relief for her suffering sick.

He ministers to the body and the mind. He treats the millionaire and the pauper, and he does his best for both. He must restrain his private sympathy in the agonizing scenes which come before him, of family suffering, because he needs an iron nerve in the pursuit of his work.

He puts humanity above compensation, and his firm voice is listened to with respect even in indigent institutions where reason is overthrown and mentality shattered. When the prosperous and even the poor have earned their rest by a day of toil, if you could look down from a high eminence into the darkness you could see his vehicles as they flash through the night to bring hope through darkness, wind, rain, and

snow to some poor sufferer whose fevered groans are changed to sighs of relief at his coming

Away with scoffers at this work!

Away with cruel jests and slander!

It is the mother endowed by God who trusts him over her most precious possession, her child in illness and pain.

It is the child whom God has given the pre-science to judge of truth that lifts up its little hands to him and smiles from a bed of anguish.

If his benefactions to man could be collected and erected as a tower to his life and work, it would put to shame the Tower of Babel, and make mere playhouses of the tallest of modern structures.

And in this contemplation, and with this view, I rejoice that we have one among us tonight who is a worthy subject of this life picture, and who has done and is doing all of this to such an extent that his great brothers in the Nation have seen fit to crown him with an imperishable crown of their admiration and esteem.

THE JOURNAL*of the***Tennessee State Medical Association****Office of Publication, Jackson Building, Nashville, Tenn.****AUGUST, 1912,****EDITORIALS****THE TYPHOID PERIL.**

Familiarity breeds contempt. The history of typhoid fever in the United States is a striking, if ghastly, confirmation of the truth of this hackneyed old saw. Let the announcement be published in the daily press that a few cases of cholera or bubonic plague have appeared in some one of our seaports and widespread concern is at once aroused. Forthwith the machinery of the government health agencies is placed in operation, experts from the Marine Hospital Service hurried to the scene, and intelligent, aggressive supervision of the situation inaugurated without a moment's delay. Commerce is endangered; the financial interests of the nation must be protected at any cost.

Likewise the appeal of the novel commands instant attention. The recent histories of pellagra and hookworm diseases are notable illustrations of this fact. Yet it is more than probable that the combined morbidity and mortality of these diseases in all the years of their occurrence in the United States have not equalled those of typhoid fever for any one of the past fifty years.

In line with the foregoing observations the following extracts from an editorial in the *Journal A. M. A.*, April 6, 1912, contains some striking facts: "It is rather startling to be told that in 1909 there were more cases of typhoid in the United States, with a population not half so large as that of India, than there were cases of plague in India; and that there were four times as many cases of typhoid in the United States as cases of cholera in Russia during a period including the epidemic of 1910. These figures are taken from an article by McLaughlin, of the Marine Hospital Service, who says that we consider with apprehension the countries in which cholera and plague occur frequently and call them pest-ridden countries, but do not consider the problem of

typhoid fever in our own country with sufficient seriousness. He gives tables to show that within the registration area in the United States, in fifty cities having an aggregate population of over 20,000,000, the average typhoid death rate for 1910 was twenty-five per hundred thousand inhabitants. In one city in that year it amounted to 86.7 per hundred thousand and in several cities it amounted to forty-five or more. In ten of the largest cities of Northern Europe, comprising a population of 15,000,000, the average typhoid death rate per hundred thousand of population during a period of ten years, from 1901 to 1910, was only 3.4, and in 1910 the rate had gone down to 2.5. It is considered in Europe that a death-rate of thirteen to fifteen per hundred thousand constitutes a rather serious reflection on the sanitary management or the water-supplies of such cities. And yet these figures are far below the average of the fifty cities in the United States above referred to, in which the death-rate was twenty-five per hundred thousand of population. . . . Not only is this high death-rate from typhoid fever to be deplored on humanitarian grounds, but the occurrence of such a large number of cases represents an economic loss so great as to be almost incalculable, and our legislators and city authorities should feel the obligation to adopt more vigorous methods of preventing this enormous waste of human energy, earning capacity and human life."

The various methods by which typhoid is spread are matters of more or less general knowledge. Defective sewage disposal and the ever-present house-fly, polluted water-supply, and contaminated food are doubtless the most prolific factors in the propagation of the disease. But the part played by the typhoid carrier is by no means negligible. When it is remembered that at least two per cent to three per cent of all patients who recover from an attack remain hosts of the specific typhoid organisms and continue to pass them in their discharges indefinitely, the importance of this factor is apparent. Obviously, general sanitary measures are powerless to cope with this particular phase of the problem, and the tracing of the source of the infection becomes at times a most difficult task.

The developments of the past few years would seem to indicate that vaccination is the most

certain means at present available of protecting the individual and controlling certain epidemics. A valuable object lesson was recently afforded in the results accomplished in the application of this measure by the efficient health authorities of Memphis. When, following the recent overflow of the Mississippi an outbreak of typhoid fever began to assume threatening proportions in the city, the emergency was met by the inauguration of enforced vaccination in the infected districts, the first time that any municipality has resorted to this means of prevention. The result was highly satisfactory. A disquieting situation was soon well in hand and the application of stringent sanitary precautions rapidly restored a normal condition in the city.

The history of anti-typhoid inoculation as applied to armies in camp furnishes one of the most convincing examples of the triumphs of modern medicine. A comparison of conditions obtaining before and after the day of vaccination with reference to our own troops strikingly illustrates this. In 1898 there were mobilized in Jacksonville, Fla., 10,759 men among whom there occurred 2,963 cases of typhoid fever with 248 deaths. In 1911 there were encamped near San Antonio, Texas, 12,801 men, under conditions of climate and environment practically identical. Compulsory vaccination was here enforced with the result that only one case of typhoid developed and there was no mortality.

With examples of the protective value of anti-typhoid inoculation, as convincing as those cited before us a more universal application of the measure would certainly seem to be justified. Perhaps the day is not far distant when vaccination against typhoid fever will be considered as necessary a precaution as vaccination against smallpox, and when in any community the prevalence of one disease will not be regarded more censurable than of the other.

The three papers appearing in this issue are timely and will cover the various phases of the typhoid problem. This is the season in which the disease is most prevalent and the resulting loss to home and community and state the greatest. It is to be hoped that the general problem will not be lost sight of in the personal interest attaching to individual cases.

LUETIN REACTION.

A recent report of the Committee on Venereal prophylaxis of the Pennsylvania State Medical Association gave the startling estimate that from ten to twenty-five per cent of all people have, or have had syphilis. In the writer's opinion, this is too high, but surely we must appreciate the wide prevalence of this insidious disease, and there can be no doubt that if its recognition could be more readily determined many more cases would be discovered, now supposed to be suffering from almost every imaginable ailment. Recent investigators show conclusively that disease of the aorta gives a positive Wasserman reaction in almost one hundred per cent and if we search the fields of medicine, neurology, ophthalmology, etc., we shall find syphilis only too frequently an unrecognized factor. Unfortunately the diagnosis is difficult and clinically oftentimes impossible, the personal equation in the application of the Wasserman test, often shakes our reliance in this valuable aid, besides, the inconvenience of applying it in small cities where well-equipped laboratories are not convenient. The great demand for a practical test, which may be applied in one's office, gives zest to the score or more of capable workers along this line, and we are being offered tests of more or less value at rather frequent intervals, however time alone will tell their value. Two recent suggestions along this line have been offered in the Cholesterin reaction in the serodiagnosis of lues, suggested by Herman and Perutz in the *Medizinische Klinik*, January 8, 1911, and the Allergic reaction by H. Noguchi at a recent meeting of the American Medical Association. In the article of Herman and Perutz, it was claimed by the authors that four per cent better results could be obtained than with the Wasserman test and that the technique was much simpler, in fact, that it could be applied in the office of the average physician. Dr. Matlock, of Philadelphia (*Monthly Cyclopedia and Medical Bulletin*, July, 1912) has carefully compared this test with the Wasserman and finds it 18.3 per cent less reliable, though it must be stated that he regards the Wasserman test one hundred per cent perfect. He also states that the Cholesterin test can never be applied as a simple test for syphilis in the doctor's office as it demands just as accurate a technique as the Wasserman test.

Dr. Hideyo Noguchi, of New York, has succeeded in cultivating seven human strains of the pallida with which he has been able to produce the initial lesion of syphilis in the monkey and obtain a positive Wasserman as well as his allergic reaction. The reactions in tuberculosis, to Koch's tuberculin test, von Pirquet's cutaneous test and similar reactions in other infectious diseases, together with recent advances made by the study of anaphylaxis, led him to search for a similar substance capable of producing a reaction in lues. Having already succeeded in cultivating several strains of the pallida it only remained for him to make an extract of syphilitic tissue containing them, which he has named luetin. His series so far compromise several hundred cases and the luetin is being investigated by the highest authorities both in this country and abroad. The reports already made by others than Noguchi, show it to be positive in all tertiary and hereditary cases. Noguchi thinks that in luetin he not only has a substance which will materially aid in the recognition of lues, but one which in a measure offers a gauge of the defensive resistance of the host. Dr. Noguchi's original article is published in the Illinois Medical Journal, of July, and those interested will be well repaid by reading same.

DOCTORS SLOW TO REPORT.

The State Board of Health has secured the co-operation of the Lay Press of the State in printing articles on health topics. The press has requested data pertaining to the prevalence and location of certain diseases. (This week a letter was received from the *News Scimitar*, of Memphis, requesting such data on Pellagra.) Facts were submitted them but feeling sure that the number submitted was far below the actual number existing, they were informed frankly that our knowledge of the cases was not accurate, and this statement is based upon some recent knowledge obtained, to the effect that less than one-half of the profession of the State, practicing in rural districts, report. The public is beginning to demand a statement as to the actual condition of the State with reference to these diseases and the means to be adopted for their arrest. Legislatures will demand some

cold facts and figures before appropriating money for the care of such unfortunates, or the protection of others. The profession is therefore urged to report each of the reportable diseases promptly that such data may be made as accurate as possible. Every persuasive means possible is being exercised by the State Board of Health, through the county health officers, through the press and by direct correspondence, toward securing accurate reports. If the doctors do not assist the Board in this commendable work, their efforts must be materially handicapped.

A NEGRO LEADER OF MEN.

The life of Dr. R. F. Boyd, a colored physician of Nashville, who died on July 29th last, was an inspiration. Born in slavery in Giles County, Tennessee, in the year 1855, the obstacles presented in his pathway were such as only an extraordinary man could have faced and surmounted. Few of any race or color, even with environments the most propitious, are able to accomplish one-half so much as he accomplished, and rare indeed, are those who with like environments, possess either the ambition to spur or the courage to dare.

The formation of character is a mysterious process, view it as we may. Influences unrecognized and elements which can not be traced often play most potent parts in determining the final issue. Yet the basic principle, the individual and his will, must not be lost sight of. In the evolution of character, as in the case of Dr. Boyd, it is almost necessary to conclude that forces other than natural and a purpose higher than human were in control. Else how account for the lofty ambition, the noble ideals, the fixed resolution to achieve, which early manifested themselves in the life of this humble negro boy? His people needed a leader and, behold, the leader was forthcoming!

A carefully written life of this man would be more than interesting, it would be uplifting and inspiring to black and white alike. Coming to Nashville a penniless boy with no other assets than health and the determination to succeed, by dint of hard work and application he acquired an education, and, realizing the great need of colored physicians, entered Meharry Medical

College. He was one of the first graduates of that institution and soon became one of the foremost colored physicians in the country. Immediately after graduation he accepted a position in the faculty and for many years, up to the time of his death, filled the chair of gynecology. To the hundreds of students who came within his influence he was friend and exemplar, as well as teacher, and many a struggling young man has cause to revere his memory. Recognizing the need for better hospital facilities for his people, he established Mercy Hospital in Nashville some ten or twelve years ago, which was the pioneer hospital conducted exclusively for the members of the colored race. This institution was from the beginning utilized for clinical instruction to the students of Meharry and for the training of colored nurses.

The activities and interests of Dr. Boyd were peculiarly varied. He was a successful business man, his wealth at the time of his death being conservatively estimated at more than \$100,000. He was president of the Peoples' Saving Bank and the head of numerous philanthropic organizations. Recently he was one of the promoters of the Negro Board of Trade, manifesting a lively interest in this as in all other movements which had for their object the welfare and progress of his race. He represented the highest type of citizenship, his influence at all times being exerted in the cause of honesty and clean moral living. On this score alone his value as a citizen to the community in which he lived is beyond estimation. He was charitable, without ostentation, God-fearing, and a gentleman always.

This appreciation of the life and character of Dr. Boyd—by no means all that might be said—calls for no apology. In the highest and best sense he was a leader of men, and the world is better because he lived in it. Personally, the writer is glad that it was his privilege to know him.

THE PHYSICIAN AND POLITICS.

The aloofness which characterizes the attitude of the medical profession toward politics in general, is on the whole commendable. Political excitement is not compatible with that equanimity and concentration so essential in the physician's work. But it sometimes appears that the atti-

tude of indifference is maintained too vigorously and undesirable consequences naturally follow.

Certainly the duties of citizenship have no less a claim upon the medical man than upon other members of a community. One of these duties is the intelligent exercise of the suffrage, and, in order to exercise it intelligently, sufficient time and attention must be devoted to the questions of policies and candidates to furnish a sound basis of judgment. Evasion of this obligation is as culpable in the physician as in the merchant or day-laborer.

At the same time there are certain considerations which the physician can not afford to ignore. He occupies a unique position in the life of his community and, even were he so disposed, must recognize that he can not participate actively in the vociferous agitation of the average political campaign without suffering a loss of that dignity and prestige with which the public is accustomed to invest its medical advisers. It is quite possible as a result of one such indiscretion for his usefulness in that community to be hopelessly sacrificed.

But there are questions in which the physician is interested and in which he, of all men, is most capable of leadership. Here his duty is clear. Unfortunately in our scheme of government these questions are inseparable from politics. Obscured by irrelevant and relatively unimportant issues, public health problems and needs often completely escape attention, and unless the physician stands out to champion them, they are usually lost in the unseemly shuffle.

There are many needs of vital importance to our state at the present time of which the profession is and has long been fully aware. Shall we not realize our especial duty in connection with them? If we mean to exert our influence toward preparing the way for the elimination of evils and the enactment of progressive measures, now is the time to do it. No stump-speaking nor active canvassing is required, there are easier and more effective ways of arousing popular sentiment. If every physician in the state would make it his business to speak an earnest word to even one-third of the people with whom he comes in contact during the coming two months, candidates for legislative office would quickly respond to the evident wishes of their several

constituencies, and the progressive measures needed would be well on the way to passage.

The people are apathetic largely because they are ignorant. The physician has no such excuse.

NEWS ITEMS.

Dr. Gallagher, of Nashville, and Dr. Biddle, of Columbia, are visiting the clinics in New York.

Dr. D. R. Neil, of Nashville, accompanied Radnor's College girls on their annual trip.

Dr. W. D. Haggard, of Nashville, shipped his car to Louisville, Ky., and will tour through the State.

Drs. Sanders, Tigert, and Brown of Nashville, have recently visited the Mayo Clinic at Rochester.

Dr. C. Holtzclaw, of Chattanooga, has returned from a trip around the world, and has resumed active practice again.

The milk stations for the distribution of free milk to Nashville's poor are reported to be doing a splendid work in preventing infant mortality.

Drs. Witt and Harris, of Nashville, have returned from a short stay at Johns Hopkins Hospital, Baltimore, where they have been doing post-graduate work.

Mrs. Williams, a recent graduate nurse from St. Thomas, has accepted the position of superintendent of nurses at a new infirmary and training school to be opened soon in Hopkinsville, Kentucky.

Dr. W. E. Hibbett, Nashville's popular Health Officer, has been visiting the larger Eastern cities in company with Mayor Howse, where they looked into the sanitary methods in use, with the idea of improving conditions in Nashville.

Drs. Cooke and Gaines, of Nashville, are in Rochester, Minn., attending the Mayo Clinic. They will return via Chicago and visit Murphy's clinic also.

Dr. Willard Steele, of Chattanooga, had a most unfortunate accident a few days ago, when he ran over a little girl with his machine, inflicting serious injuries from which she died two days later. Although he was absolved from all blame, as he was running his car slowly and the accident was unavoidable, suit has been brought against him for fifteen thousand dollars.

Dr. Michael Campbell, Superintendent of the East Tennessee Insane Asylum, had a narrow escape from death recently. While going through the wards he was struck upon the head by a stone weighing nearly a pound, hurled by an insane patient. We are pleased to learn that the Doctor's injury, while painful, was not serious.

At a recent meeting of the Shelby County Court an appropriation of \$20,000 to be added to a fund appropriated by the city of Memphis, was made, for the purpose of building a tuberculosis hospital. This hospital, when completed, will be used jointly by the county and city.

We are pleased to report the reorganization of Macon County Medical Society, with the following officers and members: Dr. Patterson East, President and Dr. F. M. Blankenship, Secretary; Drs. M. H. Allen, J. T. Gorman, J. Y. Freeman and D. D. Houser. Their meetings will occur on the second Saturday of each month.

The secretary was instructed by the House of Delegates at the last annual meeting in April, to save further expense to the Association, by sending the transactions for 1911-12, by freight to the secretary of each county society, and he is requested to distribute them to each doctor who was a member in good standing for 1911. If you were a member for 1911, see your secretary and get your copy.

We are publishing in this issue, (page xxi) a complete and official list of the Graduate Nurses Association of Middle Tennessee. Doctors will get the best service by confining their calls for nurses to this list. Cut it out and keep it on your desk for future reference.

Doctor Elizabeth Kane, of Memphis, is working diligently in an effort to have all health boards in the state adopt the question of prevention of ophthalmia, included in the notification of births. She is meeting with encouragement from nearly every county, but we regret to learn that a few are still opposed, claiming it will do no good.

In systematizing street names, the name of the street on which Drs. Pettey and Wallace's Sanitarium is located, has been changed from South Fourth to South Fifth Street. Please bear in mind this change of address does not involve a change of location of the institution. Their new address is 958 South 5th St., Memphis, Tenn.

Dr. Katherine L. Storm who several years ago patented the Storm Binder, has recently obtained patents in England and Canada on this supporter, also another patent in the United States for improvements that have been made to meet the extended requirements for a high belt for floating kidney ptosis, etc., with a minimum of pressure, heat and weight across the back of the patient.

DEATHS.

JOHN L. ATLEE, M.D.

John L. Atlee, M.D., one of Chattanooga's oldest and most beloved physicians, died July 23, at 10:30 a. m., at his home, 219 Oak Street in his eighty-first year.

Dr. Atlee graduated from the University of Pennsylvania in 1853 and in his early practice, was associated with his two uncles, Drs. Washington L. and John L. Atlee, of Philadelphia, both of eminent standing in the medical profession of that day. In 1856 he was married to Miss Sarah Humphreys, of Athens, Tenn., in which place he practiced until his removal to Chattanooga in 1884, where he lead an ideal life and made a host of friends.

The passing of Dr. Atlee removes not only a noble representative of an eminent family, but an old-time general practitioner as well. Many old families of the southeastern section of the state will mourn the loss of one who was always willing to come to them in hours of need,

sometimes a distance of many weary miles on horseback, across swollen streams or over rough mountain roads.



JOHN L. ATLEE, M.D.

He leaves in his immediate family, his wife, three sons, Drs. James H. and J. Light Jr., of Chattanooga, and Frank H. Atlee, of Atlanta, Ga., and one daughter, Miss Sarah Atlee.

AUGUSTUS GALLAGHER, M.D.

Augustus Gallaher M.D., died at his home in Decatur, June 26, from cerebral hemorrhage, aged 44. He was a graduate of the Chattanooga Medical College in the 1898 class.

MARRIAGES AND ANNOUNCEMENTS.

The marriage of Miss Ruth Ensor, daughter of Dr. and Mrs. L. D. J. Ensor, of Cookeville, to Mr. L. P. Shanks took place on the morning of August 7 at the home of the bride's parents.

The engagement of Dr. Wm. A. Howard, of Union City, to Miss Elise Epperson, of Algood, and Dr. Wm. A. Reed, of Union City, to Miss Mabel Williams, of Watertown has recently been announced. There will be a double wedding in October.

The wedding of Dr. G. B. Gillespie, of Covington, to Mrs. Catherine Crippen, of Nashville, took place on the morning of August 10 at the home of Prof. and Mrs. P. K. Henderson, of Nashville.

Dr. and Mrs. G. C. Savage, of Nashville, have announced the engagement of their daughter, Miss Portia Atchison to Rev. Marion E. Ward. The wedding will occur in the early fall.

COUNTY SOCIETY PROCEEDINGS.

Marshall County.

The Marshall County Medical Society held its regular meeting on the morning of July 25 in the office of Dr. Jas. A. Loyd. The meeting was called to order by the President, and the regular proceedings were opened with prayer by Dr. Alf Jones, of Cornersville. The following members were in attendance: Drs. R. G. Baxter, C. W. Womack, J. A. Hardison, Alf Jones, S. T. Hardison, Buford White, T. R. Logan, C. C. Hardison, and T. E. Reed.

The minutes of the last meeting were read and approved. The President appointed Drs. C. C. Hardison, C. W. Womack and T. E. Reed to serve on a committee for the purpose of selecting the subjects for the essayists at the regular meetings. Drs. S. T. Hardison and T. R. Logan were selected for the next meeting, their subjects, being "The Management of Labor with Especial Reference to Twin Pregnancy in Primipera," and "Phylacogen," respectively. Drs. R. G. Baxter and G. W. Womack were selected to open the discussions.

Reports of cases were made. Dr. Alf Jones read a paper on "Hookworm." Dr. T. R. Logan and Dr. Buford White opened the discussion. The society then adjourned until one o'clock.

AFTERNOON SESSION: The society was called to order and Dr. J. A. Hardison read a short, but excellent paper on, "Nausea as a Pathological Indicator," which was well discussed by all present. The next meeting will be the fourth Thursday in August, in the Circuit Court Room.

T. E. REED, M. D., *Secretary.*

Robertson County.

The regular bi-monthly meeting of the Robertson County Medical Society was held in Springfield, July 17, with an attendance of seventeen members out of a membership of twenty-one. Two very interesting papers were read: "The Use of Typhoid Vaccines," by Dr. Matthews, and "Public Sanitation," by Dr. Fyke.

The condition of the roads during the spring and early summer months kept several physicians from attending the regular meetings, and it had begun to look rather discouraging for the future of the society, but new life sprung up at the last meeting and we had the above large attendance.

It has been the custom of the society heretofore, to meet in some of the out-of-town locations for the summer and fall meetings, but this custom has seemingly grown monotonous, so we have decided that all meetings in future shall be held in Springfield.

Steps were taken at this meeting to put some business in the practice of medicine and surgery in the county and a committee was appointed to prepare a scale of prices or fees for the physicians of the county and from the interest manifested in the discussion of this resolution we believe that it will be heartily endorsed. It seemed that nearly all of the doctors had grown weary in doing "dead head" practice, so a resolution was adopted that each doctor shall furnish a list of all "dead heads" to the secretary-treasurer, and he is to make copies of the lists and send to each of the physicians in the county for future reference and information. What to do with the "dead heads" in the medical society has become another topic of interest and is being discussed among the doctors of the society at present, for it does not seem fair that a doctor should be permitted to be a member in name only, and yet be recognized as a member in *good* standing, when he only pays dues and never attends a meeting. This matter will come up for further discussion at our next meeting.

B. F. FYKE, *Secretary.*

Washington County.

The Johnson City and Washington County Medical Society held its regular monthly meetings, June 6th and July 5th.

June Meeting: Minutes of previous meeting were read and approved. The following members were in attendance: Drs. Randall, Long, Miller, Matthews, Kennedy, Broyles, and Cox. Visiting doctors were: Dr. Tadlock, of Knoxville and Dr. Reeves of this county. Under clinical reports Dr. Cox again presented a patient with Spleno-Medullary Leukemia. In some respects it was thought there was some improvement, especially in the size of the spleen and the anaemia was not so marked. The gastrointestinal disturbances were very much improved, but the distressing evening headaches had returned. However under the administration of the granular effervescent phosphate of soda, he obtains almost immediate relief. The blood pressure as taken was not so great as expected, 140. After much discussion of the case and personal examination the cause of his condition could not clearly be determined. Dr. Long having just returned from Chicago, where he had been for some six weeks in study and research work, was tendered the place of the essayist of the evening, (Dr. Broyles), for a talk upon his observations, etc. The talk was one of a very interesting nature to the physicians present as it was practical and dealt largely with the very progressive and exhaustive work as done by such men as Dr. John B. Murphy, Dr. Ochsner and others of Chicago. Dr. Long was very extravagant in his remarks on the splendid work of Dr. Murphy in bone surgery and was very eulogistic as to the character and personality of the doctor. Dr. Oschner came in for a great many complimentary remarks from the doctor in his work in abdominal surgery and especially upon his appendectomies and the purse string suture, also upon the implantation of the ovaries and testicles by which had been conclusively shown the preservation of the sexual life of both sexes. The doctor's talk was very much enjoyed. It showed that the doctor had lost no time while gone, but had availed himself of every opportunity to study the advancement of the science of medicine and surgery.

JULY MEETING: Minutes read and approved. Members present were: Drs. Broyles, H. Miller, Randall, Kennedy, Smith, Sells, and Cox. Under clinical reports, Dr. H. Miller reported a case of aggravated sympathetic palpitation of the heart, which was and is very alarming, the

cause being obscure. Patient had suffered for some time from slight hemiplegia and had been much improved in this respect. He had washed the stomach and without any apparent good results. Various remedies had been used but to no avail. Dr. Broyles then offered his paper for the evening upon "The Proper Examination by the General Practitioner of the Upper Air Passages." The doctor took up each heading of his paper in a business-like and practical way, the mouth, pharynx, post-nares, and anterior nares. He brought out the important features and observations that should attract the attention of the physician in making a diagnosis which would thereby make him better able to give advice and to do the right thing in relieving the defects. The paper was highly enjoyed and was very instructive, both from a scientific point of view and its practical nature. The doctor's paper was well discussed and complimented by those in attendance. After the reading of papers and discussions, the members entered into a social repartee for about fifteen or twenty minutes and then adjourned to meet again the first Thursday in August, at which time Dr. Cox will offer a paper on, "Who is the Greatest Enemy to the Doctor."

J. W. Cox, *Secretary*.

Morgan County.

The Morgan County Society met in Oakdale, on the evening of July 4th. The essayists were both absent therefore a number of medical subjects were discussed by the members.

The society went on record as favoring the Owen Bill and the secretary was instructed to request our representative in Congress to use his influence in behalf of said bill. (We received a letter stating he would do so.) I think all county societies should take up this matter and ask the same as we did. The society will meet the first Thursday night of each month. Dr. J. F. Love, of Wartburg was received into membership.

W. E. GALLION, *Secretary*.

Macon County.

The Macon County Medical Society met at Lafayette July 13th and reorganized, electing

for President, Dr. Patterson East; Vice-President, Dr. J. T. Corman, and Secretary-Treasurer, Dr. F. M. Blankenship. There was quite an interest manifested. The society will require its members to attend sixty per cent of the meetings.

F. M. BLANKENSHIP, *Secretary*.

JOHNSON CITY AND WASHINGTON COUNTY MEDICAL SOCIETY.

The Johnson City and Washington County Medical Society met in its regular monthly session in Dr. Cox's office, and, after the reading and approval of the minutes of the former meeting, the society at once proceeded with the regular order of business. Those in attendance were: Drs. Randall, Matthews, Sells, Long, Kennedy, H. D. Miller, Broyles, Cease, of Johnson City; Drs. Dulaney and Panhorst, of Jonesboro; Dr. Sutton, of Elk Park, N. C. The visitor was Dr. Eugene Deadrick. Dr. Miller reported that his former case of palpitation was of a neurotic origin and was relieved by an antispasmodic and sedative treatment. Dr. Miller also reported a case of tubercular meningitis in a young lady, who, after a sickness of three weeks accompanied by severe head and eye symptoms with low temperature, etc., died in convulsions. This patient was at the time suffering with pulmonary tuberculosis, but not in an advanced stage. The case was discussed at length by the members, several other cases being reported as having occurred in the practice of other members. Particular stress was laid upon differential diagnoses, especially as to typhoid fever in the early stage of this disease. Dr. Cox read a paper on, "Who Is the Greatest Enemy to the Doctor?" From the reasoning of the essayist it was shown that the doctors themselves were the greatest enemies to the doctor; the paper brought out a general discussion, from which it was thought would result much good to the members of the profession. The Society invited the East Tennessee Medical Society to meet at Johnson City in its October session, and the following Committee of Arrangements were named by the President: Drs. C. J. Broyles, E. A. Long, W. J. Matthews, H. D. Miller, and W. R. Dulaney. Dr. Cease was appointed the essayist for September, and Dr. Dulaney his alternate. The So-

ciety adjourned to meet the first Thursday in September (the 5th) with the Secretary, Dr. Cox.

J. W. Cox, *Secretary*.

BOOKS RECEIVED.

PELLAGRA. History, Distribution, Diagnosis, Prognosis, Treatment and Etiology by Stewart R. Roberts, S.M., M. D., Associate Professor of the Principles and Practice of Medicine, Atlanta College of Physicians and Surgeons, Atlanta, Georgia; Physician to the Wesley Memorial Hospital; Formerly Professor of Biology in Emory College, with 89 special engravings and colored frontispiece. Price \$2.50. C V Mosby Co., St. Louis.

LANDMARKS AND SURFACE MARKINGS OF THE HUMAN BODY, by L. Bathe Rawling, M. B., B. C. (Cant.). F. R. C. S., (Eng-), Surgeon with charge of Out-Patients, Demonstrator of Practical and Operative Surgery, Late Senior Demonstrator of Anatomy at St. Bartholomew's Hospital; Late Assistant-Surgeon to the General Hospital, Dalston; Late Hunterian Professor, Royal College of Surgeons, England, etc. With 31 illustrations, Fifth Edition. Price \$2.00 net. Paul B. Hoeber 69 59th St., New York.

AN ESSAY ON HASHEESH, including Observations and Experiments by Victor Robinson, Contributing Editor, Medical Review of Reviews, Pharmaceutical Chemist, Columbia University, Member of the American Chemical Society, Author of "Pathfinders in Medicine." Price 50 cents. Medical Review of Reviews, 206 Broadway, New York.

THE PRACTICAL MEDICINE SERIES. VOLUME III, EYE, EAR, NOSE AND THROAT. Comprising ten volumes on the Year's Progress in Medicine and Surgery. Under the general editorial charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School; Charles L. Mix, A.M., M.D., Professor of Physical Diagnosis in the Northwestern University Medical College. Edited by Casey A. Wood, C.M., M.D., D.C. L.; Albert H. Andrews, M.D., Gustavus P. Head, M.D., Series 1912. Price \$1.50. The Year Book Publishers, 180 Dearborn Avenue, Chicago.

INFANT FEEDING. By Clifford G. Grulee, A.M., M.D., Assistant Professor of Pediatrics at Rush Medical College, Attending Pediatrician to Cook County Hospital. Octavo of 295 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1912. Cloth, \$3.00 net.

COLLECTED PAPERS BY THE STAFF OF ST. MARY'S HOSPITAL (MAYO CLINIC) FOR 1911. Octavo of 603 pages, illustrated. Philadelphia and London W. B. Saunders Company, 1912. Cloth, \$5.50 net.

THE SURGICAL CLINICS OF JOHN B. MURPHY, M.D., at Mercy Hospital, Chicago. Volume I. Number III. Octavo of 174 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1912. Published bimonthly. Price per year: Paper, \$8.00. Cloth \$12.00.

COMPENDIUM OF DISEASES OF THE SKIN, Based on An Analysis of Thirty Thousand Consecutive Cases with A Therapeutic Formulary by L. Duncan Bulkley, A.M., M.D., Physician to the New York Skin and Cancer Hospital; Consulting Physician to the New York Hospital; Consulting Dermatologist to Randall's

Island Hospital, to the Hospital for Ruptured and Crippled, and to the Manhattan Eye and Ear Hospital, etc. Fifth Revised Edition of the Manual of Diseases of the Skin. 8vo., Cloth, 300 pages. Price \$2.00 net. Sent prepaid on receipt of price). Paul B. Hoeber, Publisher, 69 East 59th St., New York City.

BOOKS REVIEWED.

THE CARE OF THE SKIN AND HAIR, by Wm. Allen Pusey, A.M., M.D., Professor of Dermatology in the University of Illinois. D. Appleton & Co., New York and London.

This small volume of 173 pages, written by a man of the reputation of Doctor Pusey, should readily gain a wide circulation. It is written in good style and is, it would seem, intended for the laity as well as the physician. However, the doctor would do well to carefully peruse this volume for he would gain many points which would prove valuable to his patients, particularly his female constituents. The volume is of convenient size and up to the usually high standard of the Appleton Company.

J. F. G.

WHAT TO DO IN CASES OF POISONING, by William Murrell, M.D., F. R. C. P., Senior Physician to the Westminster Hospital; Lecturer on Clinical Medicine and joint Lecturer on the Principals and Practice of Medicine; Late Examiner in the Universities of Edinburgh, Glasgow, and Aberdeen and to the Royal College of Physicians of London. Eleventh Edition. Price \$1.00 net. Paul B. Hoeber, 69 East 59th St., New York.

The fact that this little volume has gone through eleven editions is sufficient evidence to attest to the popularity and efficiency of it. After a general classification of poisoning, a group diagnosis is listed under the predominant symptoms that the various drugs produce. A smaller chapter is devoted to the poisonous constituents of popular patent preparations, but since the list composes largely those used in England, it is of no great value in this country. Over 200 pages are then devoted to every poison, acute and chronic, known including the now popular "606." The volume is of convenient size, vest pocket size, neatly bound, and would be a valuable adjunct to any one's library.

J. F. G.



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THE SURGICAL MANAGEMENT OF EXOPHTHALMIC GOITER.*

BY WILLIAM D. HAGGARD, M. D.,

*Professor of Surgery and Clinical Surgery, Van-
derbilt University.*

Nashville, Tenn.,

In reviewing the surgical treatment of exophthalmic goiter or Graves' disease, it is not contended that there is not a field for dietetic, hygienic and therapeutic treatment. From a considerable experience, however, and from observations and reports of the work of those of very great experience, the writer believes in common with other observers, that the surgical treatment of this disease affords the most effective and lasting benefit. It has stood the test of time far better than the purely medical management. Unfortunately, this has been largely empiric. For over a century about every form of treatment has been employed based upon many vagaries in reference to its causes and still the medical treatment according to Sattler, of Leipsic, who has made an analysis of a large range of cases in the literature, shows the death rate to be 11 per cent. Compared upon this basis alone the surgical mortality has been reduced in skilled hands to less than 4 per cent. It must be remembered also that the surgical treatment has been in vogue for a comparatively recent period and as a consequence has had to prove its efficiency upon the worst type of cases. Not only is the surgical aspects of considerable gravity, but the disease itself, spreading as it does throughout the entire body, affecting by its all

prevailing toxemia the vital structure of the heart, and brain, liver and kidneys make the advanced cases a most forbidding problem. In spite of all of this the results have been extremely satisfactory and as Kocher says, it is very gratifying to be able to say that even in cases with irregular heart, associated with glycosuria and albuminuria, he has seen a complete restitutio-ad-integrum, when he has succeeded in avoiding the post-operative dangers—a fact which seems to be a valuable proof of the poisonous effect of thyroid fluid on the different organs of the body.

The thyroid gland so essential to our growth and development is curiously concerned in the activation and control of the other ductless glands. In connection with the hypophysis it has to do with our development and errors in the function of the latter produces infantilism, with obesity. The fat boy in the circus is an example of this abnormality. The thyroid in connection with the adrenal system has a wonderful control over our blood pressure. There are undoubtedly other mysterious associations of the ductless glands of which we are only at the dawning. Moreover, it is believed that aside from the biological influences of the thyroid it has in connection with the parathyroid the chemical control of the calcium metabolism of the body. The definite influence which the thyroid exerts in a pathologic way in the production of syndrome which we recognize as hyperthyroidism, or exophthalmic goiter, is based upon the theory of hypersecretion of this gland as enunciated by Moebius and substantiated by Kocher and other workers. Whatever may be said to the contrary, there is no gainsaying that the over-production of this fluid is extremely hurt-

*Read before Tennessee State Medical Association, Chattanooga, April, 1912.

ful. It has been observed that even inflammatory processes in the gland have produced symptoms of rapid heart, toxic tremor, exhaustion, etc., which we now denominate hyperthyroidism. It is well known that over-dosage of the commercial thyroid extract can and does produce these symptoms. The anti-fat remedies which are advertised so extensively contain thyroid extract and a number of cases of its poisonous effect has caused exophthalmic symptoms.

Why is it that the large parenchymatous and colloid forms of so-called simple goiter, together with other enlargements, like adenoma, do not invariably produce these symptoms? It is purely a question of the increased amount of secreting epithelium. In the so-called exophthalmic or hyperplastic gland there is a wonderful increase, not only in the number of alveoli, but there is a great multiplication of the cells lining them. It is upon this reduplication of secreting cells to an enormous degree that is found in a large or small portion of the gland that determines the exophthalmic symptoms. Indeed a simple or innocent enlargement may at any time be converted into pathologic activity by some fatigue process. Great mental strain from any cause seems to be the chief determining influence. It does not result from happiness or prosperity. Crile believes the cells of the thyroid show great increase and the brain cells show an exhaustion. A constant flow of stimuli from the brain cells cause hypersecretion, which in turn stimulates the brain cells to produce this abnormal flood of stimuli and thus a vicious circle is established, which engenders the well-known symptoms.

The diagnosis of a well-marked case of exophthalmic goiter is only too easy. The rapid pulse, the bulging eye, the tremor and the goiter mark the four cardinal symptoms. Of these it is said that tachycardia and goiter in association are sufficient to establish the diagnosis. It is not necessary to wait for the eye symptoms, which are late and the result of long continued toxemia. This not only causes general muscular weakness, but also of the muscle described by Landstrom, which surrounds the equator of the eye and holds it in position. Weakness of this muscle allows the eye to fall forward as a window sash would out of the aperture. The widening of the palpebral slit, the lagging of the upper lid on looking

down and the lower lid on looking up, the prominent, staring, shining eye that seldom winks, is extremely characteristic. Of the minor symptoms, of which a score are enumerated, the chief



Mrs. B. aet. 40. Extreme case Exophthalmic Goiter (Hyperthyroidism) 10 weeks: confinement to bed, vomiting, diarrhoea, loss of 50 lbs. Pulse 160-180, showing prominent, shining, staring eye (Stellwags' Sign). No Goiter. Cured by Ligation—both superior Thyroid arteries.

ones are the great muscular weakness. This is especially noticed in the knees. Some patients can scarcely step onto the examining table. They



Mrs. B. aet. 22. Rapidly growing Exophthalmic Goiter, occurring when her baby was 3 months old in a gland that had been enlarged from simple goiter for 6 years previously.

are easily fatigued and an attempt to mount stairs is a valuable test. Mental and nervous excitability and mental irritability in patients of an otherwise tranquil disposition is an important symptom. The disease is most prone to make its appearance in the early part of the third decade. It has its greatest prevalence in women; is believed to be due to the demands which are made upon this gland, which is philogenically a sex gland and is commonly noted to ebb and flow with puberty, menstruation and gestation. In addition the gentler sex are more prone to the emotional strains which acting through the sympathetic, call upon the thyroid for excessive action. In this connection I would like to call attention to the goiter of adolescence. We are so often consulted about the appearance of the enlarged thyroid in young girls. Fortunately, this is largely physiological. It may be due to some weakness in the activity of the gland, which produces hypertrophy in its effort to perform its work, but in a great majority of cases it disappears without treatment. Here the victories of many vaunted remedies are won and here the surgeon must stay his hand. "Peace hath its victories no less than war." These glands should be kept under observation and while they generally yield to the influence of time, with or without medication, they occasionally take on hypersecretion and thus become a problem for active measures.



Mrs. M. aet. 39. Colloid Goiter. Note placid countenance and absence of eye symptoms contrasted with the Exophthalmic Goiter in Fig. 1.

No matter at what time of life the early symptoms of hyperthyroidism develop, it has been

pretty thoroughly demonstrated that reduction of the blood supply to the hyperactive gland is a rational and effective method of treatment. The ligation of one or more of the thyroid arteries, under local anaesthesia, constitute one of the most satisfactory methods of handling this disease. It may be likened to the early operation for appendicitis. It should have a wide application. Recognizing the progressive and threatening trend of this malady, it is gratifying to have so safe, simple and positive a method of permanent relief.

Ligation is also indicated at the other extreme of the disease, when the patient is too ill for a radical removal of the hyperplastic lobe. It should be understood that operation is not to be employed when the patient is in an acute exacerbation, or is rapidly growing worse, but if by rest in bed, with the ice cap over the heart, belladonna, etc., the patient can be gotten in a satisfactory condition and the pulse below 120, then operation can be undertaken. One is sometimes deceived by the tranquility resulting from these measures and we can also be deceived by the first consultation. It is notorious that the slightest mental disquietude greatly aggravates all of the symptoms. In extreme conditions attended with high temperature, vomiting and diarrhoea, operation should for the time be postponed. While operative relief is needed badly enough, we would be committing the error of doing the right thing at the wrong time. Absolute rest in bed, ice-bag over the heart, belladonna and hydrobromate of quinine should be employed. Under improved conditions one superior thyroid can be quickly ligated under local anaesthesia and morphine. In very nervous or excitable patients one-two hundredth of a grain of scopolamin tranquilizes the patient and robs them of the fright that is so dangerous in these cases. If no severe reaction follows the preliminary ligation, the opposite pole, including the artery and veins, can be tied five or six days later. The improvement from this procedure is very striking. It probably breaks the nerve supply in part. A patient greatly reduced in strength and flesh will commonly gain 20 or 30 pounds, in three or four months. Some of my cases have felt so greatly improved that the original advice of having the offending lobe, usually the right, removed after the preliminary operation is dis-

regarded. I have been deceived in this matter myself, only to find at the end of a year the symptoms returning with increased fury. Radical operation then, after loosing the opportune moment, is fraught with quite as much danger as it was originally.

Postoperative thyroidism is one of the most acute and distressing plights one is ever called on to witness. The run-away heart, high temperature, great restlessness is very extreme. Large quantities of water by proctoclysis and subcutaneously are essential. The milder forms commonly yield, but the very marked instances may result in death in 30 or 40 hours. This is particularly true of the advanced cases in which in addition to the toxic symptoms one has to reckon also with the thinned out and flabby heart, the fatty degeneration of the liver, chronically inflamed and deficient kidneys, with perhaps changes in the cells of the pancreas and brain. It is for the prevention of this grade of advanced disease that surgical efforts are at the present directed.

Osler advises that if three months of careful medical treatment does not find the patient materially better they should be submitted to operation. This, in the light of increasing surgical experience is as safe and sound as many other dicta which has come from this great clinician. Sir Victor Horsley insists on the necessity of early operation. The gravity of the intervention is proportionate to the intensity and duration of the goiter. By operating early, he says, one will nearly always be successful.

The early work of any one surgeon embracing, as it does, not only the acquisition of the requisite surgical skill, but the judgment in the selection of cases; their preparation and in the selection of the particular type of operation for the particular case, cannot, of course, compete with maturer experience. Thus Tinker has been able to operate on 167 consecutive cases without a death, although his early experiences were far from the ideal.

Mayo in the first 9 months of last year performed 900 operations on the thyroid with a mortality of 1 per cent. For the exophthalmic cases, however, even in his skilled hands the mortality is more than trebled. Speaking of the end results, Crile says "no person died of the disease after leaving the hospital; one patient

was made worse by the operation, otherwise every patient was either benefitted or cured."

Kocher has heard more than once from patients that they only knew what real mental quietude meant after the immediate and fundamental relief by operation.

There is no more satisfying surgical experience than the restoration of these nervous and circulatory derelicts to happiness and well-being.

DISCUSSION.

ON THE PAPER OF DR. HAGGARD.

DR. WILLIAM T. BLACK, Memphis: There are a certain percentage of cases of hyperthyroidism in which we cannot expect to effect a cure. On the other hand, we should not go too far and operate on simple goiters in the young which are curable, at least seventy-five per cent of them. We should only operate on simple goiters where we have pressure symptoms or the goiter is becoming so large that it interferes with the cosmetic effect. In a case of hyperthyroidism, where marked degenerative changes have not taken place, by ligating the vessels in some cases you will not only cure the patient, but stop the damage that is being done. I will cite a case in a Russian Jewess who came under my observation. She was extremely weak; she had some gastric symptoms. She was sent to the hospital for a complete rest. An ice bag was applied to the chest and proper nourishment given. In addition, I thought of ligating the upper vessels. On the fourth day she had an acute gastric crisis, after improving markedly, before I had time to ligate the vessels. The psychic effect in these cases sometimes is wonderful.

THE TREATMENT OF COMPOUND FRACTURES OF LONG BONES.*

BY S. R. MILLER, M. D.,

Knoxville, Tenn.

In the treatment of compound fractures of the long bones, a "do nothing" plan will not meet the demands of the times. Before the day of Lister, such treatment was probably wisest and best. Then the mortality of these injuries was enormous. In Volkman's clinic, where experience and skill were pre-eminent, we are told that the mortality of these cases was more than forty per cent.

Asepsis and antisepsis have revolutionized all surgical treatment, and none perhaps more than

*Read before Tennessee State Medical Association, Chattanooga, April, 1912.

that of compound fractures. Present day surgery is not satisfied with a mortality of less than one per cent. In former times surgeons sacrificed limbs to save life, and in a large per cent of cases their efforts were unsuccessful. Now life and limb should be saved, and normal, or nearly normal, function may be secured. Extensive compound, comminuted, fractures may be treated with good result, but they must be treated as infected wounds. A very large per cent of such fractures are due to traumatic injury and are infected with the germ from the skin and clothing, and often more active and harmful germs and foreign matter from machinery, earth, etc. It is therefore imperative that steps be taken to combat all these. The superficial surface should be rendered as nearly surgically clean as possible. Soap and warm water are admirable, but for the skin benzine may first be used to advantage. After the use of these, and the usual antiseptic solutions used, apply equal parts of tincture of iodine and alcohol. This solution seems to penetrate the skin and render it sterile for several hours. The wounds should then be enlarged to render cleansing and inspection complete. Much soft tissue and fat may be severely contused and lacerated, and should be carefully removed with sharp scissors, otherwise it will undergo necrosis and be cast away and thereby infect the wound. The severed ends of muscles, tendons, fascia, nerves, and vessels, may often be brought together and sutured to their fellows. Such treatment necessarily requires general anesthesia. Where chloroform is well administered and well borne, as in this section of the country, it should be the choice in cases with full stomach, and in those who have had no preliminary preparation. Ether is safer when the stomach is empty, but does not relax so quickly or so well. Its stage of violent excitement in some patients, and the subsequent nausea, renders it less suited than chloroform. Oxygen-gas is yet in the experimental stage, and alone does not relax sufficiently. A full dose of morphine or Hyoscine and Morphine, aside from relieving the pain, which is always present in varying degree in these cases, is a valuable preliminary to the anaesthetic.

The X-Ray is not essential in these cases, but is often helpful. If the wound is in close proximity to one of the larger joints, or if there is a

doubt as to simple or complicated fractures of adjacent bones, the X-Ray will reveal the condition. If, however, the fracture is only a compound fracture and not complicated with other bone injuries, the open treatment will render the X-Ray examination unnecessary.

But for the fact that many of these wounds are infected with various micro-organisms and much foreign material it would be an advantage to postpone operation procedures a few days until nature can establish her barriers against such, but infection of unknown character and extent, renders early and careful antiseptic treatment imperative, and while that is being done the fracture should receive all necessary attention. In cases comparatively clean, a delay of five to ten days may be allowed and be advantageous.

The proper removal of injured soft tissue and the fixation of the bony structure requires, in addition to good surgical knowledge, much experience and mechanical skill. The circulation of both soft and bone tissues must be carefully considered. Nature has almost unlimited power to repair skin, cellular and muscular tissues, and healing is comparatively rapid, but not so of tendon and bone. Likewise, nature will often quickly absorb or cast off soft tissue, but in bone the process is much slower. Fragments of bone with good periosteal attachment may usually be saved to fill its normal place, whereas the larger bone, stripped of its periosteum, may require removal, especially if its circulation is inadequate. If considerable portion of bone is lost and only a small portion of the ends can be brought into apposition the chances of union are not very great. Nature in her effort to fill the dead space will often overdo her work and form soft tissue between the approximated ends, and thereby prevent bony union. The greater the broken surface brought together the less the danger of ligamentous union. Therefore, oblique fractures without much loss of bone are surest of bony union if properly approximated and fixed.

The question of determining the form of apparatus or suture for holding the bone in position is important. Absorbable material will often be sufficient and will be absorbed after the fragments have been fixed by callus. It is especially applicable where good, easy approximation and complete rest of the parts is ob-

tained. When apposition is difficult to maintain, or much bone is lost, and only small surfaces approximated, a stronger and more rigid material is needed. Silver or copper bronze wire will meet the demand. Silver wire is proper size for force required is pliable and is easily sterilized and mildly antiseptic. This is an advantage if perfect asepsis of the wound is not secured. Occasionally the voluntary movement of delirious patients, or the involuntary contractions of muscular parts require greater tensile strength than that of silver wire. The copper bronze wire will meet the indications, though it is not so pliable in the surgeon's hands, and is probably cast off more frequently than the silver wire. The metal screw or nail may also be used to advantage in some cases. Fracture of the neck of the femur or humerus, or very oblique fractures may be fixed firmly with either. They require the use of the bone drill to make an opening in the compact bone of the adult. The cancellous portion, particularly in children, and the extremities of the long adult bones may require no opening. In the use of the drill, care must be taken not to make the hole too large, as the screw or nail must be driven up with some force to render it secure. The ivory peg seems to have no advantage over the nail, and possesses the disadvantages of holding less securely. Metal plates and screws, as first used by Mr. Lane, of London, will secure most rigid fixation. Plates of different lengths, sizes and shapes, with two or more screws, may be used to secure perfect and constant fixation. They are not pliable, but a size or shape must be selected to suit the fracture. More than one plate may be used to fix the fracture. As in the use of the nail, care must be taken not to make the hole too large for screw. These possess the great advantage of the most perfect apposition and rigid fixation, but more frequently offend the tissues where infection or necrosis occurs. When such appears they require removal. Therefore they do not seem so applicable to extensive compound fractures, as to simple fractures with no loss of bone or periosteum. They are not so easily removed as the single screw or nail or wire.

The question of drainage is also important in compound fractures. In extensive injury to the soft parts, and particularly the cancellous por-

tion of the bone there is much oozing for a few hours and ample drainage should be provided. Usually the drainage should be removed early, lest it prove an avenue of infection from the skin. The character of the fixation dressing depends upon the condition of the patient, the character of the fracture, and kind of fixation used. Good fixation by Lanes plates require little external support, whereas absorbable material fixation requires practically the same as if nothing was used. No dressing is so sure, and, if properly applied, so safe as a plaster paris dressing. Ample provision must be made for oozing and swelling. Absorbent cotton when wet with blood will pack, and may leave the limb without proper support. Non absorbent cotton will allow swelling and will not pack to the same degree as the absorbent cotton.

Healing in this class of cases progresses more slowly than in simple fractures. Necrosis of soft parts, infection of wound and fixation material, and dead bone, often interfere with healing for a time.

"TREATMENT OF FRACTURE."*

BY ROBERT CALDWELL, M. D.,

Professor of Surgical Anatomy Vanderbilt Medical College.

Nashville.

Believing that this has been one of the very best years in the history of the Academy, I am especially proud to have been your presiding officer during such a prosperous year. I feel it one of the greatest honors that has fallen to me and I now desire to express to you individually and collectively my sincere appreciation of this signal honor.

Let me thank you for your interest and support which you have been willing to supply at all times, without which the successful year just closing could not have been possible. I wish now to acknowledge my gratitude to the men who have been philanthropic enough to leave their work and come to us, which has, indeed, been a distant stimulus to greater things and a source of lasting good to each member fortunate enough to hear them.

*Presidential address read before Nashville Academy of Medicine and Tennessee State Medical Association, April, 1912.

I am sure that I voice the sentiment of every member of the Academy when I say that no better addresses were ever delivered to a body of physicians than those of Drs. Henry E. Tulley, of Louisville; C. F. Hoover, of Cleveland; E. Gustave Zinke, of Cincinnati; Frank Billings, of Chicago, and Labez N. Jackson, of Kansas City.

I believe this is an innovation that should be continued and one which will do vast good. However, I think it can be overdone and would suggest that from six to ten visiting essayists should be sufficient during the year, more than this would so fill the program as to prevent profitable work being done by members of the Academy.

Mr. President-elect, I trust the year that you will occupy the chair may bring even greater things for the Academy and I now promise you my support, to make it a better year than the one just closing, and I intend being present as nearly every meeting as possible, to see that you do make it a more prosperous year.

It has been quite a difficult problem to know upon what subject I should address you, but feeling the one I have selected to be of extreme importance, I shall ask your indulgence for a short time that I may discuss a few of the more important features of the subject. I wish to present for your consideration, a subject that is receiving no small amount of discussion at the present time, namely: "The Treatment of Fracture."

To Mr. Arbothnot Lane, of London, is due the credit of exciting this extensive discussion and indeed it is an honor for whether or not we accept the teachings of Mr. Lane, or discard them, it will have produced a demand for more scientific treatment of fractures by so-called conservative methods, as well as a demand that a man who proposes to treat a fracture shall have had training in this particular branch of surgery, just as now a man must have had special training before we will commit to his hands abdominal surgery.

The treatment of fracture demands more training than any other surgery and especially is this true of the non-operative treatment, yet every tyro feels himself competent to deal with these cases. We are accustomed to think lightly of a fractured bone, as well as being content to call

too poor an anatomical and functional result a "(satisfactory) result."

In no other branch of surgery are we content with such imperfect results as in the treatment of fractures. A significant fact noted by Huntington is that seventy-five out of ninety-two of the foremost surgeons of the United States consider appreciable over-lapping not inconsistent with a "(satisfactory) result."

Formerly we were justified in being content because we did not have the means of obtaining information as to the causes for our poor results. But since we now have the X-Ray which has taught us that imperfect reduction is by far the most important element that is responsible for such a large number of deformities; not only from a cosmetic but functional standpoint, and is also responsible for a very large number of the cases of delayed and non-union.

While I do not wish you to understand that I am an advocate of the operative treatment of every fracture regardless of the many things that contra-indicate operation, yet I do believe we would secure much more satisfactory results, everything being considered, if a great many more fractures were operated upon.

To secure better results is the cry of the present, and the question for us to settle is; by what means are we to obtain this improvement? Do the results obtained by the more modern methods justify the means? The first thing necessary in the treatment of a fracture is to secure perfect reduction. Many operators contend that an anatomical reposition is not necessary to secure a "satisfactory result," but it must be admitted by all, that if we have an anatomical reposition and maintain it our results will be entirely satisfactory. Can reduction be accomplished more surely by the open or closed method? While I do not feel that any one would deny that it could be more perfectly obtained by the open method, yet I feel that a quotation from as recognized an authority as F. J. Cotton will dispel what little doubt might still linger in the minds of a few. He says:

"I have never seen a fracture with displacement perfectly reduced without incision."

So I feel that this point must be conceded to the operative treatment.

The next step in the treatment, after securing a perfect reduction, is the maintenance of this

reduction; here also there seems very little room for a difference of opinion, and I shall assume without further argument that reduction is more satisfactorily and surely maintained by the application of one of the numerous devices employed for this purpose through an open wound.

While we have conceded the two above-mentioned points to the operative side of the question, where shall the ultimate result of perfect union be placed? Here is where we find the wide differences of opinion, one worker declaring positively that non-operative treatment gives best results, while another is just as certain that the operative does so. Let us consider some of the more important arguments that are urged by the men opposed to operative treatment, the first of which is infection. This is quite a bugbear which is brought forward in every discussion as almost if not quite prohibiting open treatment. Because some one first made the statement that bone is the easiest tissue to become infected, many have accepted this as a true statement, when in fact, there is no justification for such belief. If this were true we would all at some time in our life, have had an infected bone. The truth is, bone infection is one of the rarest infections that the surgeon is called upon to treat. Of course, some one is ready to say, that traumatism to the soft tissues and bone is the thing that so predisposes to the infection, but if traumatism is such an important factor, why does it not occur more frequently at the sight of fractures treated by the closed method?

I can find no evidence to support the teachings that bone is especially predisposed to infection, except the statements of those writing upon this subject and they do not present any facts in support of this claim. Carlton B. Flint observed something over two hundred operations for fracture in the last three months of 1906 and the first nine months of 1907 at the Roosevelt Hospital with only four cases of sepsis. Bloodgood, whom we all recognize as both an excellent pathologist and surgeon, says:

"In my opinion the argument against immediate operation is not the risk of infection but that radical measures are not absolutely necessary."

We are all entirely willing to admit the disastrous consequences of infection, here as well as with plastic work in the soft tissues, but at

the same time would deny that in every instance non-union will follow, while infection would produce delayed union in every instance, I daresay non-union will not follow in more than half the cases.

Dr. Gibbon in a recent article says:

"If we could feel the same assurance regarding aseptic wound healing in fractures as we do in abdominal operation, half the difficulties would be overcome, and our results would be ten times better than they are at present."

I believe this erroneous idea has arisen in our minds because the vast majority of our fracture operations have been done upon ancient fractures which required an immense amount of manipulation to free the fracture ends from surrounding fibrous tissue, which of course increases the percentages of infection, just as other surgery that requires excessive handling of the tissues, gives us the highest per cent of infections.

Dr. Gibbon in the article above referred to, in support of the extreme probability of infection calls attention to the fact that Dr. Lund reporting eleven cases in four of which it was necessary to remove the plate, does not take into consideration that at least three of the four cases were ancient fractures; one four months, one three months and one three weeks and the fourth may have also been an old fracture for the report does not state that it was a recent one. Granting the fourth case to be a recent fracture then in this small series seventy-five per cent of the cases of infection were in ancient fractures, which bears out our contention that the old cases are the ones in which we are so likely to have infection. There is no more justification for us to draw conclusions regarding the operative treatment of recent fractures, from the results of ancient fractures than there is in the treatment of catarrhal appendicitis from the results of gangrenous.

Freeman says:

"The success of operative intervention depends much upon the accessibility of the fracture, the danger varying directly with the amount of manipulation required."

If a recent fracture required an excessive amount of manipulation when employing the open method, it would certainly require no less should we attempt reduction without operation

but on the contrary, am sure it would demand much more manipulation if we could not see just what obstacles are to be overcome. I am confident with rigid aseptic precautions the percentage of serious results would be very, very small indeed. I do not believe we should open a fracture without the proper facilities to do aseptic surgery any more than we would open the abdomen without such facilities. I am sure infection is absolutely the only thing that will give us non-union in the open treatment of fractures, except the general conditions that would give us non-union if treated by conservative methods. While infection is the only local condition that will give us delayed or non-union by the open method, and this, as stated above, should occur very rarely, there are many conditions that may produce non-union in fractures treated by closed methods, such as imperfect reduction, and inability to maintain a good reduction, the difficulty of adequate immobilization, the interposition of the soft tissues and infection.

Delayed and non-union in the operative cases have been attributed to the presence of foreign material but am very much inclined to doubt this being a factor; of course we recognize that the pressure of the plate and the destruction of the bone by the screws might produce non-union, should they happen to be so placed as to interfere with the principal blood supply to that portion of the bone, the supply having already been reduced on the other sides of the bone by the traumatism of the fracture. This certainly would occur very rarely indeed.

The presence of a foreign body in the tissues has been urged as a serious objection to the open treatment of recent fractures and no one denies that it is objectional on general principles, but practically in very few instances has it given any trouble except when associated with infection. An ideal material would be one that is sufficiently rigid to maintain the ends in apposition and that would be absorbed within a few months. If we possessed a material of this character all the opposition to the open treatment of fractures would simply vanish. It is strange that so slight an objection as the foreign material in the tissues should be the thing to deter most of the profession in general, from adopting the open treatment of fractures.

If the above conclusions are correct we will

certainly obtain much better results by the open treatment of most fractures; especially of the long bones. Let me again emphasize that what I have said refers to recent and not ancient fractures. Are such so-called radical measures justifiable?

The great majority of fractures occur in men who earn a livelihood by daily labor, so time is a very important element with them, and a method that will insure a good reduction without the interposing of soft tissues will certainly give to the greatest number union in the shortest possible time which in itself is of sufficient importance to justify the means in a large per cent of cases. Von Bergmann refers to statistics of 121 cases of fracture of the femur treated without operation in which only 39 recovered completely while 75 had an average loss of earning capacity of 28 per cent. Although union is secured this is a tremendous loss to this class of patients.

Some men advocate the plan of attempting to maintain reduction by splints for sometime before resorting to operative treatment. This is objectionable. First; because the patient is losing valuable time and most important, because the delay makes the operative treatment much more difficult and the results less certain. The almost unbearable discomfort that the patient experiences with many of the splints and dressings, we are often forced to employ, can be much reduced by the open fixing of the fracture at the same time improving our results.

Recently I treated a transversely fractured clavicle in a young man, which I attempted for one week to maintain reduction by a Sayer's dressing without success. The patient complained bitterly of the dressing and was unable to secure rest a single night without morphia. Failing to maintain the reduction I insisted that he permit us to cut down and plate the fracture, which we did. He left the hospital on the third day carrying his forearm in a sling about his neck. At no time after operation did he complain of discomfort. He being a teacher in the public school, was able to return to his work at the end of ten days. The result is that you can not tell which clavicle has been fractured if it were not for the small scar; there is no large amount of callus to mark the fracture. I removed this plate six or seven months later because the patient could feel it beneath the skin

and it could be readily done with a little cocaine in my office. I recognize that all fractures can not be left as free of dressing as this one yet when the fracture is perfectly reduced and fixed the dressings and splints can be reduced to the minimum.

Anesthesia is a necessity, whether we treat the fracture by the open or closed method so this does not contribute to making the open method a radical procedure. The incision in the over-lying tissue is the only thing to justify the term "radical," and in all other surgery we look upon the incision of soft tissues of the least importance for we frequently hear the statement that a long incision will heal as quickly as a short one and if increasing the size of our incision will facilitate the operation it is done without any hesitation. Then why should we make an ado about cutting down upon a fracture? Some one has said the large amount of fibrous tissue produced by opening a fracture would interfere materially with union of the bones. There need be but the smallest amount of fibrous tissue if we know how to maintain an aseptic wound.

Thus, if we consider that opening and fixing of a simple fracture "radical measures," then I think they are justifiable and should be applied to all simple fractures in which a better reduction can be secured and maintained than by closed methods, provided there is not anything in the patient's general condition that would contra-indicate operation for anything, except the immediate conservation of life.

DISCUSSION.

ON THE PAPERS OF DRS. CALDWELL AND MILLER.

DR. DUNCAN EVE, JR., Nashville: In regard to the treatment of a compound fracture of the leg, it devolves upon the physician or the man who first sees or dresses the case. It falls upon him to secure asep's to start with in order that bony union may be obtained. It is important in a compound fracture, first, to put the patient to sleep, and then do one or two things. If you put a patient to sleep, for instance, who has a compound fracture of the leg, make the opening larger, if it is not large enough to start with, and search for any loose spicula of bone; also provide for drainage, and while he is asleep and the wound

open, be sure to arrest hemorrhage and oozing. If a great deal of bone has to be removed, that is the case where you can put in a plate. Dr. Miller recommended wire. The plate is better than wire. That kind of case would be much better for a plate. In many of these cases you do not need a plate to start with, because the patient has not lost very much bone, and you do not have to remove much bone. The ideal treatment of such a case is to put the patient to sleep, enlarge the incision, arrest the hemorrhage and oozing, remove any spicula of bone that may be there, and put in drainage, and after that put on a temporary dressing, using a piece of cardboard, a wire splint, or an ordinary wooden splint. Take a pillow and put the leg in such a manner so that the heel will be upon the distal end of the pillow; place the pantalets above the knee and two or three inches below the leg and on the outside of the pillow; put a sand box over that so that the limb cannot move to and fro, and on the fourth or sixth day the patient should again be brought to the operating room, put to sleep, and the leg put in a permanent dressing or plaster cast. By putting on the first dressing you will take care of any oozing that will take place during the first two or three days. Inside of twenty-four hours there is a good deal of drainage. There should be one or more dressings after the second or third day, and after the fifth or sixth day, you put on a permanent dressing. During the examination the first dressing is applied under an anesthetic. If you make an opening, it is advisable to put in secondary sutures of silkworm gut. At the second operation you can tie the sutures and take the drain out. Of course, in some cases you must make a door or window in the cast if you put the leg in a permanent dressing.

I have had seven cases of compound fracture. One patient had a compound fracture of both legs. I have treated them all in the manner I have described. Out of the seven limbs there was not one in which I could wire or use a plate. In the next case that comes along I may have to do this. Where the bone is not involved, you do not have to remove so much of the bone, and in such a case you do not have to use a plate. So much for Dr. Miller's paper.

In regard to Dr. Caldwell's paper, I agree with him that we ought to do more operations than we do in fractures of the patella, in cases of transverse fracture of the femur, and especially of the patella, where there is a great gap. Dr. Caldwell recommends operating at once. I would take issue with him there. Take the patella, for instance, if you open it right away, you take the chances of having so much oozing which will last for several days. It is best in a fracture of the patella to use some chemical, such as a two per cent solution of formalin into the joint as soon after the accident as possible, which sets up a chemical inflammation and cofferdams the joint. Nature does that in about the seventh or eighth day by the quiet method. About the sixth or seventh day after this chemical inflammation you can go ahead and do your operation.

ACUTE ANTERIOR POLIOMYELITIS.*

BY JAMES H. ATLEE, M. D.,

Chattanooga.

Today the problem of infantile paralysis confronts the physicians of almost every state in the union, to a degree never before known. That acute anterior poliomyelitis is not a new disease in the United States is well proven from the fact that in almost every village and community can be seen the familiar picture of an invalid man or woman, with the withered or distorted leg or arm, whose history would date back more than fifty years. That today the disease prevails to a much greater extent is evidenced by the increased number of afflicted and crippled children seen upon the streets or in the parks of our larger cities. It seems strange that until recent years there has been so little knowledge of a disease so common among children, direful in its after-effects, leaving maimed and crippled its victims, not when life's work is about to be finished, but when life has only just begun. Acute anterior poliomyelitis, or infantile paralysis, appears either in sporadic cases, or in epidemic form, as has been shown repeatedly during the past ten years. The increased prevalence of the disease in epidemics has invoked an increasing amount of investigation both of its clinical and pathological features, which has resulted in establishing some important and comparatively new facts concerning it. Animal experimentation at the hands of Flexner and Lewis of the Rockefeller Institute, of Landsteiner and Levadite, Ramer, Straus, and others, has added so much to our knowledge of the disease—its communicability, the mode of infection, the nature of the virus, and its specificity for the central nervous system together with a broad clinical conception of the disease, that it is already incumbent upon medical chroniclers and text-book writers to restate a large part of the matter descriptive of acute poliomyelitis.

The widespread prevalence of this disease in Norway and Sweden, some of the largest epidemics on record having occurred there, has suggested the probability that it has been brought to this country and disseminated by the ingress

of Scandinavian immigrants, but this is only a possibility.

The recent appearance of Poliomyelitis in epidemic form, and its rapid and widespread dissemination, regardless of geographic location or climatic conditions, together with the unusually frequent number of isolated cases, so that no part of the country can claim immunity, has caused much concern, both on the part of the profession and the laity. Medical literature, together with the lay press, has been crowded with the reports of the disease, so that the parents of the land have grown most anxious, and are on the alert for the first appearance in their children of any suspicious symptoms.

Historically, the epidemiology of the disease in this country may be said to date back to 1841, when Colmer described eleven cases which occurred in close connection in one of the parishes of Louisiana. But the first localized outbreak of any consequence is that reported from the Otter Creek Valley, in Vermont, in June, July and August, 1894, when Cavalry described 132 cases of acute anterior poliomyelitis confined within a radius of twelve miles of the city of Rutland. . . . In North Adams, Massachusetts, in the same year, Brackett recorded a group of ten cases. These two towns, Rutland and North Adams, are connected by rail with Boston, and it is interesting to note that only a few months previous to these outbreaks attention had been called by Putnam to the increased prevalence of the disease in the suburbs of Boston.

From 1894 to 1904 nine small outbreaks of the disease are reported in the United States, the two most conspicuous being one in Massachusetts consisting of thirty-eight cases, and one of fifty-five cases in the vicinity of San Francisco, California. Not until 1907, when New York City and vicinity was visited with the largest and most violent epidemic ever known, did the disease extend so as to affect large numbers of persons, or to ravage, in succession, adjacent and remote communities. In that year, fully 2,500 cases occurred in New York City, and several hundred in and about Boston, and since then the epidemic waves have been moving ever farther to the West and South, until, at present, there is probably no single state that has escaped, and is not subject to further ravages. Certain

*Read before Tennessee State Medical Association, Chattanooga, April, 1912.

it is, that there are now existing conditions which did not exist in past years, which are favorable to the propagation and spread of the disease; conditions which at the present time are more prevalent in this country than in Europe.

Realizing the increasing gravity of acute anterior poliomyelitis as a public health problem, the Massachusetts Board of Health in 1910 was the first to inaugurate and carry out a systematic and extensive investigation as to the prevalence and character of the disease in this country, and much valuable data and information has been published. This information can be only in a measure accurate since statistics are scarce, and in only twenty-three states is infantile paralysis reportable by law. In the report from these states, where proper legislation has been enacted, marked discrepancies are liable to exist; cases having occurred which have not been reported, for various reasons, and cases reported in which the diagnosis cannot be confirmed. Other states are falling in line, and are beginning to realize the gravity of the situation. It is hoped that proper legislation will soon be enacted in every municipality, with the purpose of controlling the spread of the infection.

In the year 1910 there were about 8,700 cases of acute anterior poliomyelitis reported in the United States, and when this is contrasted with the years prior to 1894 when the average number was fifteen cases per year, we may appreciate the enormous increase that has occurred. Although there has been an undoubted tendency of the disease to spread in Europe since 1905, when the great Scandinavian epidemic occurred, five-sevenths of all the cases reported from all over the world for the five years ending in 1909 occurred in the United States. This may be accounted for by our broader extent of territory, and the greater number of infecting foci.

In studying the tabulated report issued by the Massachusetts Board of Health for 1910, no reports are found from the Southern States, except from Virginia, where an outbreak of 357 cases had occurred. From this the inference is drawn that the majority of cases have occurred in the Northern and Western States, indicating that the disease is more prevalent in cold than in warm climates.

In April, 1910, the Board of Health of the State of Tennessee secured legislation declar-

ing infantile paralysis an infectious and contagious disease, in a class with measles, scarlet fever and diphtheria, and reportable by law. Since then the bulletins of the Board of Health have recorded the reports of 19 cases; seven in Blount County, two in Knox, two in Davidson, two in Robertson, and one each in Franklin, Jackson, Rhea, Shelby, Washington and Williamson counties. There is no record of any epidemic of the disease in the state. These nineteen cases reported show that acute anterior poliomyelitis is constantly occurring in isolated cases in sparsely settled communities more than is supposed, and that the source of infection cannot, in many cases, be traced to its origin.

My own experience in the study of infantile paralysis is limited, but when I recall six cases in my practice since 1907, and as many more cases seen in consultation, it does seem that isolated cases are prevailing in this city more than is suspected. In bringing out the etiology and clinical aspects of the disease, I shall make reference to these cases, as they are of more than ordinary interest.

Two of these cases were boys, aged two and three years, in no way related to each other, who had spent the summer in the Northeast, and returning to their homes in Chattanooga in the early fall of 1907, had to pass through and stop in New York, when the epidemic of infantile paralysis was prevailing. The first case, about two years of age, and in perfect health, about ten days after returning was unexpectedly taken sick with vomiting, high fever, pain and soreness in back of neck and legs, a pronounced angina and catarrhal condition of the nasal passages, sweating, marked restlessness, and insomnia. I saw the child at once, and prescribed the simple remedies for the relief of a gastro-intestinal disturbance. Upon the third day a momentary convulsive twitching of the entire right side occurred, involving the muscles of the right arm and leg, but not until the appearance of the loss of motion in the right leg was the diagnosis of infantile paralysis made. Previous to this time the child had been in perfect health; the infection occurred in New York, and undoubtedly the point of entry was the inflamed mucosa of the nasal passages and throat. The second case, a parallel to the above, was seen in consultation, giving the history of a slight

febrile disturbance, gastro intestinal derangement, pain in back of neck, and the following day loss of motion in the right arm appearing suddenly. In both of these cases the atrophy and distortion of the affected muscles and limb has continued to a marked and distressing degree.

The third case, a girl, aged two years, the idolized child of prominent Jewish parents, living in one of the best residence sections of this city, was suddenly stricken in June, 1909. This child had not been out of the city during the summer, and the source of infection still remains a mystery. The usual symptoms of vomiting, fever, restlessness, muscular twitching, pain in back and neck, with the sudden loss of motion in both legs. The diagnosis of infantile paralysis was made, and the frenzied parents rushed the child away to Cincinnati for consultation, where the diagnosis was confirmed. The resulting atrophy soon appeared, and the dreaded after-effects of the disease had to be endured.

The fourth case was cerebral or basilar in character—a polioencephalitis—and recent investigations have established a close relationship between the spinal and basilar forms, that they are due to the same infection, with the same lesions occurring in both types. This child, at the age of thirteen months, had been absolutely strong and well, until suddenly, and without warning she was stricken with the convulsive seizures of a meningo-polioencephalitis, continuing for hours, followed by stupor and a palsy of the ocular and facial muscles, and of the muscles of deglutition and of respiration, which was combined with a weakness of the right arm and leg. After ten days the little patient became more rational, and gradually was able to make sounds and recognize objects, and when the child could be raised up a marked ataxia was found.

The two remaining cases represent that type of the disease, the abortive—which to me are of special import—a form of the disease occurring more frequently than is suspected, and rarely apprehended even when occurring during the prevalence of epidemics. One of these cases an infant two years of age, of good white parentage, with a negative history of any disease prior to the present attack was taken with a gastro-intestinal disturbance—vomiting, pain

in back, hyperesthesia of the skin, muscular twitching of the muscles of eyes and face, and loss of power of motion in right arm and leg. This case was at once suspected, and perfect rest was ordered and carried out. These symptoms in a few days cleared up and the paralysis disappeared.

The other, a child of five years, presented similar symptoms—the case running a like course with complete recovery in a week's time. The cases were undoubtedly sporadic cases of infantile paralysis of the abortive type.

These cases are interesting, the first exhibiting the infectious and contagious elements of the disease, and the fact, newly demonstrated by Flexner, that the infectious agent can be found in the mucous membrane of the nose and throat, and that through these avenues the well patient can become infected: The third case showing the sudden development of the disease, and the often unsolved question as to the original source of the infection: The fourth case, that the infectious agent does not confine itself to the gray matter of anterior cornua, but that it is a general infection of the pons, the cerebellum, and of the cerebrum, as well as of the cord, and that the meninges, the white matter, as well as the gray matter is involved.

The two last cases illustrate the abortive type of the disease—a type which appears much more frequently than is suspected—occurring during the prevalence of epidemics—and occurring in sporadic cases—many times overlooked and never recognized.

Much valuable research work has been done in the Rockefeller Institute by Flexner and Lewis, in establishing the infectious and contagious nature of the germ of infantile paralysis, which had been suspected since the epidemic nature of the disease was first recognized. They have produced in monkeys experimental poliomyelitis, which clinically and pathologically is essentially identical with the disease as observed in children. For the inoculation an emulsion in a normal saline solution of the spinal cord from a recently fatal case of acute anterior poliomyelitis in a child was used, and was injected into the brain, the peritoneal cavity, or the circulation of the well monkey. Promptly all the symptoms of an acute anterior poliomyelitis with the accompanying paralysis de-

veloped, in the same order and manner as is usually manifested in a child. Thus the disease has been transferred from a human source to a monkey, from this to a second monkey, from the second to a third, and so on, until in one instance, at least, a series of seven was obtained. Flexner concludes from these experiments that the virus of epidemic poliomyelitis is readily transferable from man to monkey, and from monkey to monkey, and that it becomes established in the spinal cord and the medulla, where it sets up characteristic lesions, which are followed by those characteristic effects that exhibit themselves as the usual symptoms of infantile paralysis in human beings.

This experimental work upon monkeys, and the observations of many investigators and practitioners suggested that the disease is caused by a living organism present in the cerebro-spinal fluid or the blood and secretions of the afflicted, but all the efforts of Flexner and his co-workers have failed to isolate or identify the specific infecting agent, and the conclusion is that it is too small to be seen either with the aid of the microscope or the ultra microscope, passing through even the finest bacterial filter, and similar in this respect to the causative agent of rabies, scarlet fever, and measles. The occurrence of the disease in epidemics has naturally raised the question as to what extent it is contagious. It has been demonstrated that the disease is directly transferable from a patient having it to another with whom he comes in contact: that it may be carried by a third person, and that in cases where the direct transmission has not been recognized, it has really occurred through one who has been designated a carrier, one who has suffered a slight or abortive attack of the disease which has not been recognized. In this connection it must not be overlooked that only a very small per cent of those who come in contact with the infection are infected, there being a certain degree of immunity which is not understood.

In some epidemics it is claimed that the infection has been carried through the medium of the dust, and the theory is not without support when it is known that the disease is more active during dry hot seasons and along dusty roads, becoming less prevalent after rains, or after the dust has been laid by sprinkling. The

common housefly, and the mosquito, and other insects which have the power to migrate over considerable territory have been suspected by some as being capable of carrying the infection. Flexner, in experimenting with insects, found that the housefly could harbor the virus in a living state for forty-eight hours, but whether the fly self-infected could carry the virus from the infected child and later to transmit it to other children remains to be proven.

Flexner, in his experimental work has shown that the infectious agent of infantile paralysis passes from the central nervous system of inoculated monkeys into the nasal passages; and the inoculation of the germ into the nasal mucosa has been followed by the paralysis in these animals. Hence it is concluded that in human beings the portal of entry is by the nasal mucosa, although other avenues exist; notably the digestive tract, the circulatory glandular system.

To Harbitz and Scheele, the Norwegians who have done much original research work in the study of infantile paralysis, are we indebted for the most reliable observations upon the pathology of the disease. From nineteen autopsies, in a late epidemic, they have made a very elaborate and detailed report, summing up their observations as follows:

"In a series of fatal cases of acute anterior poliomyelitis, we have before us, as a rule, a diffuse inflammation of the cord and its meninges, of the entire medulla oblongata and pons, of the basal ganglia, and often also of the cortex of the brain to a greater or less degree, always preceded with similar inflammation in the pia mater. In autopsies upon cases of long standing, the affected part of the cord, which is often only one lateral half, is smaller than normal. The general changes are those of a sclerotic character. The ganglion cells of the affected anterior horn have either disappeared altogether, or they are few in number, and so shrunk as to be hardly recognizable. The white matter is also smaller than in the sound part of the cord. The anterior motor roots are degenerated quite to the muscles. The affected muscles are atrophied, and in an extreme case there may be a complete loss of the muscle fibres. The affected limb is shorter, and the bones smaller, than upon the sound side."

Thus Harbitz and Scheele have proven beyond question that the infectious agent producing epidemic poliomyelitis may extend to any part of the cerebro-spinal system, and may affect both the gray and the white matter together with the meninges.

The extensive studies of the recent widespread epidemics of acute anterior poliomyelitis have greatly changed the clinical conception of the disease, and there are marked differences between the symptoms of the disease as described in the older text-books and those observed in recent epidemics.

The one distinguishing feature of acute anterior poliomyelitis is described in the text-books as a flaccid motor paralysis, of sudden onset, due to the destruction of motor cells in the anterior cornua of the spinal cord, and accompanied or preceded by constitutional symptoms indicative of acute infection. The result of recent study has been to emphasize the severity and acuteness of the constitutional symptoms, and the extensive involvement of the nervous system.

It has been shown that the nervous lesions are not confined to the anterior cornua, but embrace infiltration of the pia mater, increase in the quantity and cellular contents of the cerebro-spinal fluid, infiltration around the vessels of the cord, hemorrhages into the substance of the cord, edema of the cord, and degeneration of the ganglion cells. While the lesions are most severe and constant in the anterior cornua of the gray matter of the cord, the whole of the cord and brain is more or less affected and the symptoms of the disease have been found to correspond to these widespread changes.

The initial symptoms may be so mild as to escape detection, the onset being so imperceptible in some instances that children may go to bed at night perfectly well, and wake up in the morning with complete loss of motion in one arm or leg, or both. Again, in severer cases, there will be all the constitutional symptoms of general infection, with fever 101 to 103 degrees, sometimes attended by convulsions and delirium, sometimes by considerable pain in the back, body and limbs; occasionally by digestive disturbances, vomiting and diarrhoea or constipation; sometimes merely by malaise, restlessness, irritability and nervousness.

The nervous symptoms in the acute stage are extremely varied, showing even before the onset of the paralysis, widespread involvements of the cerebro-spinal axes, symptoms of meningitic irritation which are usually of moderate severity, but sometimes as serious as in epidemic cerebro-spinal meningitis. Symptoms may be present of general encephalitis, such as headache, convulsions, delirium, irritability, nervousness or apathy, and occasionally coma. Certain secondary disturbances are sometimes present, the most common of which is severe pain in the neck and back and extremities; and hyperaesthesia with rigidity so marked as to suggest cerebro-spinal meningitis. After these symptoms have continued for from thirty-six to forty-eight hours, some loss of power is usually observed; this may be in one arm or leg, or both, or there may be general weakness. This paralysis rapidly increases, and in a few hours reaches its maximum. There is then a stationary period of from one to four weeks, which is followed by a period of improvement lasting from six months to perhaps a year, and the final paralysis is always less than the initial. The improvement in the paralysis is due to the fact that many of the ganglion cells, which at the height of the disease are merely compressed, or only partially involved, recover their function, wholly or in part, and that the nerve supply of a muscle nerve arises from a single segment of the cord. By the end of six or eight weeks, marked atrophy is present in the paralyzed muscles, and the affected limb is smaller than its fellow. Except in the early stages, sensory disturbances are absent.

The tendon reflexes in the domain of the affected muscles are diminished or abolished, although a reflex that is absent at first may later reappear. The presence of a reflex, however, does not exclude the existence of the disease, for when the biceps, quadriceps, calf muscles, (and the corresponding centers in the cord) are intact, the triceps, patella and Achilles tendon reflexes may be presented), even if the other muscles of the extremity are paralyzed.

The circulation in the affected limb is impaired, and the limb is blue and cold and flabby. The paralyzed muscles are relaxed—never rigid—and show a reaction of degeneration to the electrical tests. The reaction of degeneration

consists of a loss of response in both muscle and nerve to the faradic stimulus, and a loss of response in the nerve to the galvanic stimulus. The galvanic reaction of the muscle remains, but in such a muscle there is found an alteration of its contractility to galvanic currents. For the first few months the muscle responds too strongly to galvanism, and contracts under the positive pole more rapidly than through the negative pole when the current is sent through it. It may be stated as a prognostic fact that the muscle in which faradic reaction is preserved will recover, even though paralyzed for a time at the outset. Such muscles also preserve their tone, so that they contract when percussed sharply with a hammer.

Deformities of the joints are a common sequel to infantile spinal paralysis due to the paralysis of the muscles controlling those joints, and to the resultant relaxation and greater degree of motility than is normal.

The final paralysis is, as a rule, monoplegic or hemiplegic. It is not very unusual for other muscles than those of the extremities to be affected, while these escape such muscles are more often the erectors of the spine and the abdominal muscles.

Various other varieties of infantile paralysis aside from the spinal poliomyelitic type, which has been described in full, which comprises the greatest majority of cases, and is the type most easy of recognition.

The ascending or descending type, simulating a "Landry's paralysis;" and it is more than probable that most if not all of these cases recently reported as Landry's paralysis, were in fact infantile paralysis.

The Bulbar or Pontine type, which is distinguished by paralysis of muscles supplied by cranial nerves; probably the worst and most severe type.

The encephalitic type, which is distinguished by paralysis due to lesions in the motor area of the brain, resulting in a spastic monoplegia or hemiplegia.

The meningeal type, with marked symptoms of a meningitis which may or may not be followed by a paralysis.

Then the abortive types are those showing the initial symptoms of acute poliomyelitis, but not

followed by paralysis. These cases occur oftener than supposed.

The differentiation of these types depends upon the location of the lesions in the central nervous system. The initial symptoms, before definite localization has taken place, are in a general way similar in all types.

Diagnosis:

The diagnosis of infantile paralysis of the spinal type, after the development of the paralysis, is of course, easy. The great difficulty at present lies in making the diagnosis before the paralysis.

The prognosis in acute anterior poliomyelitis is always grave. Patients do not often die of the affection, but they rarely escape a permanent paralysis in some part of the body. It is true that in a majority of cases the original paralysis subsides, so that there is an apparent improvement of a considerable degree. As to the treatment, no specific treatment has yet been developed, though it is probable that a serum will yet be found which will control the serious after-results. The general treatment in the acute stage must, therefore, be the symptomatic, directed along the same general lines as in other acute infectious diseases.

Rest is important, and even in very mild cases should be enforced after the subsidence of acute symptoms. The most recent investigations of Flexner have demonstrated the fact that urotropin or hexamethylenamin given internally to monkeys who are subsequently exposed to the infection of infantile paralysis lessens their liability of contracting the disease, and the administration of urotropin to monkeys immediately after the inoculation with the virus of the disease tends to mitigate the severity and sometimes to prevent the appearance of the symptoms. The urotropin is germicidal, and is advised on the ground that formalin is excreted into the cerebro-spinal fluid. Hence it seems that the early use of urotropin in cases where infantile paralysis is suspected is decidedly indicated. Isolation to prevent the spread of the disease, and all prophylactic measures are to be adopted.

The effects of treatment after the subsidence of the acute stage are to promote the comfort and the nutrition of the patient, to prevent contractions and deformities of the paralyzed parts,

and to maintain the nutrition of the paralyzed muscles.

While pain and tenderness exist, massage and electricity are contra-indicated but hot baths and gentle exercise and absolute rest are to be advised. Deformities must be prevented by suitable mechanical appliances, designed to keep the limbs in the proper anatomical position.

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DISCUSSION.

ON THE PAPER OF DR. ATLEE.

DR. H. H. CHRISTENBERY, Knoxville: I am not able to discuss the paper, but would like to ask the essayist a few questions. I have only had two cases of acute anterior poliomyelitis, and both of these were in boys about 15 and 18 months of age. I would like to know if the disease is more prevalent in males than in females? I would also like to ask the author of the paper if he has noticed suppression of urine as a symptom? I have noticed it in the two cases I have had.

As to report of cases, there have been only two cases, I believe, from Knox County. I have reported to our county physician two cases. But there are undoubtedly more cases than that, so that I believe that there are cases of infantile paralysis which are not being reported. This fact should be impressed upon our physicians in order that we may make a thorough research.

DR. E. A. LONG, Johnson City: I do not care to discuss the subject, but I think it is very timely because we are in great danger of a widespread epidemic of this grave disease.

Personally, I have had no experience with it, but I have enjoyed the paper very much, and I believe it will put us on the alert and prepare us to recognize the disease and to take immediate steps for its suppression and the prevention of its spread.

DR. WILLIAM KRAUSS, Memphis: The point I wish to make is that localization of the lesions has been found to reach points that we formerly had not suspected in connection with the disease. The original idea was that we had a distinct localization in the anterior cornu only has been proven to be erroneous. The important bearing of this on diagnosis and on the epidemiology must not be ignored, because in cases manifesting symptoms due to the atypical distribution of the lesions we overlook the chances of the spread of the disease in such cases.

DR. ATLEE (*closing*): In answer to the question asked by Dr. Christenbery, I think the disease occurs equally among males and females. I do not know that it is more prevalent among males than it is among females.

As to suppression of urine, in the cases I have had there has not been suppression of urine except in a case of the basilar form of meningitis. There was suppression of urine in that case, but not in the others.

An important point aimed at in my paper was that there is a great possibility of this disease appearing in isolated cases and appearing in forms that are not recognized. It was this point I wanted to bring out, and especially the general involvement of the nervous system, instead of the disease being confined to the anterior horn.

THE TREATMENT OF PERITONEAL INFECTIONS.*

By W. M. McCABE, M. D.,

Superintendent and Surgeon, Nashville City Hospital and Associate Professor of Surgery Vanderbilt University.

The peritoneum, per se, is a magnificent culture medium, but its ability to form adhesions, and to exude large quantities of leucocytic serum, makes it a membrane difficult to infect. We also have within the peritoneal cavity the omentum which, with its abundant blood supply and ability to adhere to infected areas, renders a general infection of the peritoneum, in our opinion, extremely rare. We know that this assertion is contrary to the teachings of some of the best surgeons, but we believe that many of the cases which have been reported as general infections have been more or less local in scope. We also believe that there are some surgeons who mistake a serum loaded with leucocytes for

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pus. It has the color of pus, is creamy in consistency, contains no floculi, is thin and flows freely. We find a condition analagous to this in the chest, and we know that on two occasions we have aspirated fluid from the pleural cavity which we took to be pus, but on the following day, when the patient was ready for operation, we have aspirated again and found only a straw-colored serum. You may call this "laudable pus" if you desire.

Peritoneal inflammation is nature's method of destroying infection. If the inflammation wins, we have resolution or localization with pus formation. If the infection is victorious, we have general peritonitis, and, frequently, death. There are certain forms of infection which neither the efforts of nature nor the dexterity of the surgeon can stay, and death is inevitable.

The successful surgeon is he who assists nature in her efforts, and not he who acts contrary to her methods. It was with this idea in view that Ochsner devised his successful and rational plan of treating peritoneal infection. Now, let us take, for instance, an infected appendix, and see what nature does. The ileo-caecal valve is closed to prevent the ileum from emptying its contents into the caecum. The small intestines are placed at rest, and the stomach is requested to empty itself, which it promptly does. The abdominal muscles become rigid, and the caecum, with its diseased appendix, is sequestered in a place of safety. The omentum comes to the scene, and, aided by adhesions, a wall is built around this offending appendage, and the infection is localized. If the converse should happen and the stomach continue to empty its contents into the small bowel and it into the caecum, then nature's efforts would be defeated. An imperfect wall or none at all would be formed, the infection, unmolested and aided by peristalsis would spread over the peritoneum and, to say the least, a general infection would occur.

Purgation, therefore, either preceding or following operations for acute peritoneal infections is to be condemned in the severest terms. It is absolutely contrary to nature's efforts, spreads the infection, withdraws fluid from the body, weakens the patient, and renders him unfit to wage a successful campaign against this disease. Water and food should be withheld from the

stomach, and Murphy's method of enteroclysis, aided by hypodermoclysis or the intravenous injection of saline, substituted. If there is much vomiting and regurgitation of small intestinal contents, gastric lavage should be performed.

Fowler's position has been condemned because of the uncomfortable attitude in which it places the patient, and its fancied detrimental action upon the heart. In our work we have not found these objections substantiated. We have felt a rapid thready pulse slow and gain both in volume and tension. We believe the rapidity of the heart and the weakness of its contraction depends upon the absorption of septic material, and that if Fowler's position causes fluids to gravitate to the pelvis where they are absorbed slowly or drained out the fancied detriment really becomes a great benefit. We believe also that drainage is facilitated by placing the patient in a position where the fluids will gravitate in the direction of the drainage tube. It would not be wise to place a patient with a perinephritic abscess on his abdomen, neither is it wise to place a patient with an appendiceal abscess upon his left side. If our patient is shocked from hemorrhage, we are then compelled to abandon Fowler's position, much against our wish.

Irrigation of the peritoneal cavity, to my mind, is not to be recommended, except, perhaps, where one has had the misfortune to rupture a large suppurating cyst, or fibroid tumor. The peritoneal cavity in this instance is filled with pus, and no harm can be done. There are certain gutters in the abdominal cavity which, aided by the mesentery, guide fluids to the pelvis and localize infection. Irrigation cannot do anything but overflow these channels, mascerate faeces and stomach contents, and thereby convert a local into a general infection. We maintain that the peritoneum can wall off and take care of a solid mass of faeces in a localized area much better than it can myriads of small particals spread throughout the cavity, or that it can take care of one piece of infected bread much better than it can of millions of infected crumbs. We have operated upon perforations of the large and small bowel; we have operated upon stomachs which have poured their contents of beer and food into the peritoneal cavity, and upon bladders which have emptied their contents of urine into the pelvis. We have

always been content to wipe out foreign material with gauze sponges and not to irrigate. To date we have not lost a case of visceral perforation from peritoneal infection.

The question of drainage is one that has not been settled. The conclusions of experimenters that a drainage tube is of no value after six hours were arrived at from experiments upon healthy dogs. In the first place the peritoneum of a dog is more resistant to infection than that of man, and in the second place there is no need for a tube in a healthy peritoneum, and why should it not be treated as a foreign body and walled off. There is no doubt but that the peritoneum surrounds infected material with adhesions, but no one has yet seen an adhesion running through the center of a pus cavity, and we have no more right to conclude that a suppurating peritoneum heals by first intentions any more than we have the right to conclude that a suppurating wound in any other part of the body heals by the same process. We, therefore, believe, drainage to be indicated, first, in all cases of suppurative peritonitis, whether local or general; second, where necrotic tissue or foreign material is left in the cavity; third, where we are not certain that stitches in hollow viscera will hold; fourth, where it is impossible to control hemorrhage. The only valid objection that can be advanced against drainage is its ability to produce adhesions, which, in our opinion, are sometimes very helpful. The worst cases of adhesions which we encounter are in cases where nature has won her victory and no tube has been placed. For instance, cases of pelvic infection. We believe, however, that there are many cases of perforation of hollow viscera by vulnerable bodies where the peritoneum is only slightly soiled in which drainage is unnecessary, but this is to be determined at the time of operation, and the operator is to be guided by his experience. We do not believe that it is wise to allow a tube to remain in the peritoneal cavity much longer than forty-eight hours, for by this time a fistula is formed and if the abdominal wall is kept open by a wick of gauze the proper amount of drainage will continue. We do not propose to enter into a discussion of the merits of various kinds of drainage, but advocate, most heartily, that the primary incision be closed and drainage instituted through a separate stab.

Intestinal paresis is a complication of peritoneal infection much to be dreaded. It is probably truthfully thought that the duodenum secretes a fluid which is highly toxic under conditions of stagnation. We know from actual experience that the contents of the bowels above an obstruction is so exceedingly lethal that death frequently results even if this material is allowed to flow in the healthy bowel below. Therefore, the rational treatment of this condition is to empty the intestinal canal, not by pouring purgatives into the stomach to be regurgitated, nor by the administration of the dangerous and valueless esserine sulphate, but by gastric lavage or enterostomy. We have seen enterostomy act almost as charmingly as tracheotomy.

In conclusion, I wish to emphasize that the time to commence treating peritoneal infections is while it is in its incipency and localized. We make it an ironclad rule to operate immediately, if the patient's condition will permit, upon all cases of visceral perforation, whether from ulceration or vulnerable bodies. It goes without saying that the time to remove the appendix is when the condition is localized in this organ. This would be an ideal method of treating infected Fallopian tubes, but unfortunately infection has reached the peritoneum before we see the patient.

DISCUSSION.

ON THE PAPER OF DR. McCABE.

DR. WILLIAM D. HAGGARD, Nashville: Mr. President: It seems to me a paper so apt as this, which covers all the mooted questions in the treatment of peritoneal infections, ought not to go by without some discussion. It is not so much a matter of discussion, so far as I am concerned, as it is a matter of coinciding with the views of the essayist. Surely, we all recognize the wisdom of prompt action in all extensive cases of peritoneal invasion. That is particularly true with the type of accident that the essayist has been so successful with—namely, the perforation of an ulcer, gunshot and other perforations. The trouble is that delay is oftentimes necessary and sometimes unavoidable. Moreover, if one is unfortunate enough to wait until the end of the first eight hours, he then has to deal with a totally different proposition from what there would have been in the first few hours. When we have gunshot and visceral perforations to deal with, the rule should be to get in, if possible, in the first eight hours; after that time the infection has spread and we have a very extreme condition to deal with usually. As to irrigation under the cir-

cumstances, it is of very little value, but it is no worse than to wash out a patient's stomach a number of hours after he has been poisoned by laudanum, because all the harm has been done. Laudanum poisoning is then a constitutional affair, and so it is largely with peritonitis. Irrigation, therefore, in these cases is largely a lost art, and properly so.

In reference to the question of drainage, it has been extremely valuable to me. I would hesitate very much to treat a long-standing case of active peritonitis without drainage. It has been said that we can spill pus rather indiscriminately in the peritoneum, although nobody cares to do that, and still the patient will have no ill consequences. The pus is sterile and has been, and no harm ensues. In the pelvic cases drainage is not indicated as we formerly thought it was, particularly in some of them.

Going back again to the danger of operating in the type of cases in the pelvis in which the patient is still in an acute condition, in a case of pyosalpinx of a week or ten days or two weeks duration, the patient needs to be cured, but it is doing the right thing at the wrong time. I remember our early work in that direction, with twenty per cent mortality in acute pus cases; whereas now, some weeks or months after infection has died down, operation is very satisfactory. In the early appendix cases nothing was more gratifying, but in the advanced type of cases we should employ the method advocated—namely, prompt removal of the sequestrum by drainage, which acts as a quarantine as well as taking away the excess of the infection which may be just enough to overpoison the patient. We should use Fowler's posture and enteroclysis and hypodermoclysis. We must remember we are treating a general disease as well as a local one.

I think, Mr. President, Dr. McCabe, in the short space of time allotted to him, has covered the subject in a very satisfactory manner.

DR. W. A. BRYAN, Nashville: I fully agree with Dr. McCabe in what he has said about the treatment of these cases, and I do not know that I can add anything that will make the discussion of this subject any more complete, after what Dr. Haggard has said. We experiment with normal tissues sometimes and we get one result; then we try another method, based upon the pathologic condition, and it may be a success. Let us turn away for a moment from the peritoneum and look at two wounds. Here are two wounds, both of which have been properly closed. One heals by first intention, and the other by second intention. One suppurates, fails to unite, and the other does not suppurate and unites. Why is it in the one that we get healing by first intention, and the other by second intention? For the simple reason that the pus present destroys the mechanical bond of union, the coagulated blood that seals these surfaces together and makes healing by first intention. Adhesion in the abdomen, so far as it goes, is a matter of healing by first intention. It is a coagulation of lymph of the same type that is in a wound that heals by first intention. If pus is present, the lymph is dissolved by

the suppurative process, by the peptonizing influence of the bacteria that produce the pus. As to the cases that need drainage, we do not get a walling off at an early time. The walling off begins at the edge of the suppurative process, and as the pus disappears, the walling off comes down closer to the drainage tube. We used to drain in many cases where it was not necessary. We get better results in large series by draining even when we suspect the pus is sterile, such as old cases of infection in which the pus became sterile. In these we will always get better results by draining. I look upon a suppurating peritoneum just as I would a suppurating wound of any other tissue not covered by integument of any kind. We would not take an ordinary abscess and close it up. Nature can whip it out in the peritoneum; why not whip it out there? The tissues are crippled, and every bit of poison we can get out will add just so much to the prognosis and it is a fight that the patient must make.

I think Dr. Haggard and Dr. McCabe are both right in their ideas of the treatment.

DR. McCABE (*closing*): In my paper I dealt only with acute infections of the peritoneum. In the chronic infections, where the pus is sterile, there is no necessity of a drain. The pus at this time is simply a harmless albuminous material which will be absorbed by the peritoneum. However, none of us like to see pus flowing freely over the peritoneum, and it is well to take the precautions to prevent this, even in cases where there is no reasonable doubt as to its sterility.

We never operate upon pus-tubes in the acute stage, but keep the patients in bed, giving them hot douches until the temperature reaches normal and remains so for at least two days. At this time we can operate with very little danger to our patients.

PLACENTA PREVIA; WITH REPORT OF CASE.*

BY M. A. BLANTON, M. D.,
Baileytown, Tenn.

Placenta previa remains one of the most dramatic and serious accidents of the lying-in-chamber, and in spite of all forms of treatment is one of the most difficult and trying of all obstetrical complications. A review of the literature on the subject is very convincing evidence that the profession is very far from agreed upon its causes and treatment.

Hemorrhages of pregnancy in the first months are usually due to abortion, menstruation, lesions of the cervix, and are not profuse. In the last three months they are almost always

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due to a premature detachment of a normally or abnormally inserted placenta.

The placenta is said to be previa when its implantation is abnormally near to, or more or less over, the internal os uteri.

In estimating the frequency of this anomaly we find that statistics exhibit great irregularities; giving the proportions as high as 1 in 250 and as low as 1 in 1,000 pregnancies. In some years the condition is so frequent as almost to simulate an epidemic.

As a result of the wide difference in the opinion of authors, we have a number of different theories as to the cause of this malady. The most plausible ones are: The displacement of the ovum and its lodgement lower down as in arrest of a threatened abortion; abnormally low position of the orifices of the Fallopian tubes; large relaxed uteri of multiparous women and multiple pregnancies. Chronic endometritis, myomata, carcinomata and other uterine diseases are said to act as predisposing causes.

The diagnosis is usually clearly suspected by repeated hemorrhages during the last third of pregnancy, and is confirmed by vaginal examination. The irregularly, granular spongy texture of the placenta being easily recognized by the examining finger passed into the os. In some primipara, however, passing the finger to or through the internal os may be difficult or impossible. Should we fail to pass the examining finger sufficiently through the internal os to recognize the placenta, one side of the lower segment of the uterus may be felt through the vagina, to be soft, boggy, and enlarged where the placenta is attached. The sign of ballottment can not be elicited. Diagnosis can not be positively made, until the placenta is actually recognized by digital contact. Some writers claim to be able to recognize this condition by external abdominal palpation.

The prognosis is extremely grave. Statistical estimates give the maternal mortality from 20 to 30 per cent. We believe, however, that the above mortality is reduced, by modernly improved treatment. Approximately, two out of three children are born dead.

We have hurriedly scanned over a few of the more important points in the recognition and results of placenta previa, and now come to the

most interesting part of the subject, to us—its rational treatment.

To arrest hemorrhage and separate the placenta are the functions of the placental site. The mechanism of separation develops from a disproportion between the area of the placental site and the placenta. This disproportion is due to the functions of the uterus, the size of the placenta being practically stationary. If the placenta is normally located, the contractions of the muscular walls of the uterus effectively pinch off the placenta and decrease the placental site so as to effectually arrest the bleeding. In case the placenta is previa this normal mechanism is disturbed. The muscular walls of the lower uterine segment are poorly developed, the placenta is adherent and its site does not contract but, on the other hand may dilate. The knowledge of this disturbed mechanism of labor being inevitable, with frequent disasters to both mother and child, gives the incentive to deliver as speedily as possible, when we are certain of our diagnosis.

The earlier treatments of placenta previa were intended to save the mother's life at all hazards, regardless of the fetal life. Schroeder said that the best results are obtained when the child's life was entirely disregarded. This treatment chiefly consisted of vaginal tamponade until the cervix admitted two fingers, then Braxton-Hicks bipolar version and slow extraction. Following this treatment the fetal mortality is high.

A more modern method of treating this condition is by placing the hysterectomy between the placenta and presenting part of the fetus, thereby permitting the child to pass through the pelvis head first. Recently Sellheim has performed and advocated his operation of extra-peritoneal cervix Caesarean section and claims to have saved a number of mothers and children. Quite a number of those in authority recommend abdominal Caesarean section in practically all cases of placenta previa. The contraindications are a completely dilated cervix and a mother that is probably or certainly septic. In six cases of Caesarean section operated on and reported by Kronig during the present year, the hemorrhage was very light. In five of these cases the amount of blood lost was less than 300 grams. In one case, where the cervix admitted three fingers at the time of operation, did

the hemorrhage amount to 800 grams. The earlier the Caesarean operation is carried out in labor, the less blood is lost.

Miller tells us, in *American Journal of Obstetrics*, of having treated eleven cases of central placenta previa by ligating both uterine arteries as a preliminary to the delivery of the child. The anterior and posterior lips of the cervix are drawn down with forceps and the uterine artery on one side is palpated, with the finger, a ligature is thrown around it and the vessel tied. The other artery is treated in a similar way. The cervix is then dilated by the bags or other means and the child delivered as the conditions indicate.

Prof. J. D. De Lee, of the Northwestern University Medical School, says, the best method of treating placenta previa is by placing the colpeurynter on top of the placenta with just enough traction to stop hemorrhage, but not enough to tear the cervix. He urges the abdominal Caesarean section as the best treatment for placenta previa in primiparae, at or near term or multiparae at or near term with complete previa when the cervix is tightly closed and sepsis not present.

The bipolar method of Braxton-Hicks is without question the safest treatment for the mother and requires the least skill. Since this condition is so rare, in the practice of general medicine, it should be the method used by the general practitioner. If the case is in the hands of one moderately skilled, the bags may be used, an attempt being made to save the baby. The principal objections to the Braxton-Hicks method are, sepsis and air emboli. These are prophylactically treated. The former by asepsis, the latter by avoiding the ingress of air, if possible, into the uterine cavity. Gases may be generated in the uterus by decomposition of a dead fetus and in this way bring about an embolism. One of the principal points if not the principal point, in the prevention of emboli is to maintain a positive blood pressure in the pelvic organs by position, or posture. This may be done in a country practice by elevating the shoulders and head a little higher than the pelvis and keeping them so throughout the operation, by means of pillows. In this way the uterus will have a tendency to fall toward the pelvis, by its own weight, the vagina will shorten and the suction of air is not so likely to occur.

If the medical attendant feels sure that air has already entered the uterine cavity, he should see that no great positive pressure is brought about. Thrashing about in the bed, sudden deep inspirations, crying and bearing down should be forbidden. If air should be detected in the uterus, after the delivery of the placenta, it is necessary to introduce the hand internally and by gentle massage of the fundus try to force the air out by the side of the arm. All arrangements should be ready to stimulate and support the heart should it be necessary. The prognosis is very grave and especial emphasis should be placed upon prophylaxis.

It is the practice of some to immediately tamponade the placental site, in all cases of placenta previa, as soon as the placenta is delivered. This should be placed firmly against the sinuses and more firmly in the vagina. If this should fail to entirely control the hemorrhage, effort should be made to secure contraction of the uterus by massage, cold packs or ice, ergot and finally by bimanual compression of the tamponaded uterus. A note that should ring in our ears from the very beginning to the end, when confronted by this formidable foe to the lying-in-chamber, should be, save the blood by all available means.

I was called, August 10, 1911, in consultation with Drs. B. and C. to see Mrs. F., aged 30, a very muscular woman, in her sixth confinement. The doctors, in charge, told me the patient had been in hard labor for twelve hours without any progress. I seated myself beside the bed and waited a few moments, when a pain came on which was simply terrific. I could see the patient was almost exhausted and that something must be done. I made a vaginal examination and found the membranes still intact. The cervix dilated sufficiently to admit three fingers, but no loss of blood. On passing my fingers through the internal os I detected a soft granular mass which I felt sure must be placental tissue. I ruptured the membranes and the story was told by a gush of blood which simply drenched everything about the bed. With the doctors' assistance, I insinuated my hand through the internal os, around the placenta, turned the child, by bipolar version, brought down a leg and delivered as soon as I could, as the patient was almost exhausted. The child looked to have been

dead some hours. By a hypodermoclysis and other stimulants the patient rallied for an hour, all hemorrhage ceased, good uterine contractions and all seemed to be going well for a time. The patient then begun to sink and died in three and one-half hours after, of what seemed to be exhaustion.

The interesting features in this case are, no history of hemorrhage during the last third of pregnancy; a placenta previa centralis and twelve hours hard labor without rupture of membranes or hemorrhage.

DISCUSSION.

ON THE PAPER OF DR. BLANTON.

DR. H. H. McCAMPELL, Knoxville: I am very sorry I came in too late to hear the greater part of the Doctor's paper, so that I am only to discuss the latter part of it, particularly the report of the case.

There is no branch of medicine that has made so little progress in the last few years as that of obstetrics. There are many surgeons, but few obstetricians. The reason for this is, the vast majority of cases terminate in a normal, happy manner, so that none of us, unless we make a specialty of obstetrics, see enough of the abnormal cases to become proficient in their management. I have never seen a case of placenta previa. The reason Cesarean section is advocated is the fact, as I just suggested, there are many more surgeons than there are obstetricians, and most anybody can do a Cesarean section if he is efficient in the art of surgery, while to manage a case of placenta previa correctly requires a considerable amount of skill. Now, I am of the opinion that very few children, in cases of placenta previa, survive. If delivered alive, they usually succumb, for the reason that the vast majority of cases of placenta previa suffer more or less from hemorrhage for two or three months. That leaves the mother in an anemic condition, and consequently an anemic child results. The child is born poorly nourished, and the mother is unable to nourish the child, the child is put on artificial food, and the chances of the child surviving more than a few weeks are very slim. The benefit of the doubt should be given to the mother instead of the child. No additional risk should be incurred on part of the mother for the sake of the child. The chances are the child is living, but there are many more chances of its not living. The mother should be given the benefit of the doubt, and should not be subjected to any additional risk. In the case reported the diagnosis had not been made, and nothing was known about it until labor was begun; but in this case if Cesarean section had been done early, the child might easily have been saved.

As to the use of bags, etc., Dr. De Lee, of Chicago, who is one of the most expert obstetricians we have today, states that they are not to be used by the novice.

I think he is correct. He says he has lost only two cases out of four in the last report I saw from him. One was a case of sepsis in the hands of a midwife two weeks before he saw it, and the other died from pulmonary embolism.

The greatest danger to the mother, aside from the hemorrhage itself, is secondary to the anemia that she has. You take a woman who has bled one, two, or three months, more or less continuously, there is greater danger than in those who have two or three hemorrhages. With those who bleed two or three drops a day, the physician is lulled into the belief that the patient is not losing sufficient amount of blood to produce any great amount of anemia, while, as a matter of fact, the total amount of blood lost is greater than in the case of the woman who has two or three rather large hemorrhages.

This case reported is very unusual. I understood it was a case of placenta previa centralis. I cannot conceive how a patient can have labor pains for twelve hours without producing hemorrhage. On the other hand, rupture of the membranes controls the hemorrhage, whether the placenta previa is lateralis or marginalis. It seems to me, it might have been a detached placenta rather than a case of placenta previa. It sounds like it.

I did not hear the first paper of the paper, so am unable to discuss it. I presume, however, the Doctor went into the symptoms and pathology, and so forth, and I leave the subject for general discussion.

DR. HENRY W. CHENEY, Chattanooga: There are a few things in respect to placenta previa that are fortunate, and many things which are unfortunate in respect to the physician, and more so to the patient. We know that there is one fortunate thing, and that is, that the placenta has no direct connection with the maternal parts—that is, there is no passing of fluid or blood, in other words, directly from the mother to the placenta. The placenta receives its nourishment from osmosis. Therefore, it is fortunate for the patient when the placenta is detached that there is not such a great hemorrhage. Furthermore, there is not so great a field for the admission of the ordinary cocci which come in contact with the patient. The uterus begins to enlarge in the beginning of pregnancy, or grows, I should have said. When the uterus stops growing and begins to dilate, then is when we begin to get the symptoms of placenta previa, or, in other words, hemorrhage, which is produced by placenta previa, which is about the seventh or seven and a half months. For instance, in a case of placenta previa centralis the placenta, as we know, attaches to the lower uterine segment, and begins to separate as soon as the uterus begins to dilate. Prior to that time, the uterus has been growing; at this time it begins to dilate, and therefore we begin to get continual hemorrhage with slight pain. The patient sends for a physician, and on digital examination he finds out what is the matter. He makes his diagnosis from feeling of the placenta.

To recur to the Doctor's method which, I believe, is the proper thing for a man to do who has not the facilities to send his patient to a hospital—namely, to go through the placenta and do a bipolar version. In doing a bipolar version, there are two things that we must be careful about, and one is that we must be careful and not tear the lower uterine segment. We know that at this time, in ninety per cent of the cases, the os is dilated to the size of an American dollar. If the os is dilated to that extent, we can gradually slip the hand up through the parts, passing it through the placenta, and catch one foot of the fetus, bring it down, but only one foot, because we want to use the buttocks as a plug to stop the hemorrhage, which will occur otherwise in the future. If we bring both feet down, we will have a leakage down through the inguinal region of the fetus, or rather by the inguinal region of the fetus. So it is necessary to be careful of these two things, not to tear the lower uterine segment, which tears like blotting paper.

About six months ago I saw a patient, with a doctor, who had been having hemorrhage for two or three days. The patient's pregnancy had advanced to the seventh or to seven and a half months. We anesthetized her and undertook to do a bipolar version. I introduced my hand, and we know what little power we have with our hand in the uterus, but on introducing my hand in the form of a cone and dilating it the cervix tore.

DR. E. A. LONG, Johnson City: With a fairly extensive obstetric experience, I have had quite a number of cases of placenta previa. I think about one half of one per cent or one in every two hundred cases I have had has been a case of placenta previa.

In regard to the treatment, I wish to add only a remark or two. It is a mooted question as to what the best procedure is after the diagnosis is made. It seems to me, if the diagnosis can be made early, the safer plan for the mother, and her life should be considered first, is to produce therapeutic abortion. I wish to cite a case here, however, that was successfully treated by keeping the patient in bed.

I was called to see a woman who did not really know that she was pregnant, but was having a severe hemorrhage. I found very little dilatation of the os cervix. On examination I could not say certainly what was the cause of the hemorrhage, but supposed it was pregnancy, with an effort at abortion. I could not deliver the placenta at the time, and the only thing for me to do in the presence of such a hemorrhage was to keep her in bed and use tampons to control hemorrhage. The next day, on removing the tampon, I expected to find the contents of the uterus in the vagina or in a condition to be easily removed, but, to my surprise, I did not. There was no dilatation even. I removed the tampon and left it out till the next day, and still there was no dilatation and very little hemorrhage. I kept the patient in bed for one week or more, then she got up; hemorrhage sat in again, but it was very slight. I put her to bed for another week or two. She got up, hemorrhage sat in again, and I

could not diagnose the case. I supposed it was a persistent effort to abort. I decided I would keep the woman in bed steadily, which I did for six months, she completing her term of gestation. When labor sat in I was able to diagnose a placenta previa and delivered my patient, with considerable hemorrhage, saving both mother and child, as I have been able to do in most of such cases.

DR. BOYD, Scottsboro, Ala. (*by invitation*): I have had quite an experience with placenta previa for a young man who has practiced medicine for thirteen years in a rural district. I have had fourteen cases of placenta previa. These did not occur in my own practice; the great majority of them were seen in consultation. It seems that with practically every woman in my county who has had placenta previa it has fallen to my lot to help the physician through with the case.

The first case I had was a young woman, who was seven months pregnant. The placenta was partially implanted, and the membranes ruptured, the cord prolapsed, and as a result I had a dead fetus. I attempted very hastily to empty the uterus, and as a result brought about rupture of the cervix. That caused me to be a little less hasty in my future treatment.

The next two cases of placenta previa were also partial implantations, and in those cases I applied a tampon and waited. After dilatation of the cervix I broke through the placenta, broke through the membranes; the placenta was slightly to the side, and delivered both patients with living children, the mothers being pregnant about eight and a half months, and these children are living to-day.

The next case, as I remember it, was seven months pregnant. I used the same treatment. The placenta was more centrally implanted, and after dilatation of the os I broke through the membranes, pushed the placenta aside, and delivered a living child at seven and a half months, which died the next day.

Since then I have used the Braxton Hick's method of version very cautiously. I do not think it is the proper thing to do in all cases. Whenever the fetal head has presented, and the placenta is only partially over the mouth of the uterus, I think the best method to pursue is to tampon the vagina, do it aseptically, be careful about it, and wait. If you wait too long, you may have trouble with the woman afterwards in the way of sepsis. For that reason, in cases of that kind, I would advocate, whenever you can get the patient to a hospital, with a good surgeon, taking the patient there and emptying the uterus by Cesarean section.

In speaking of the aseptic method, in using a tampon it is absolutely necessary for the sake of the woman to do that just like you would any other gynecological operation; put her on the table, tampon the vagina perfectly, and do it, of course, aseptically. If you do not do that, you are almost sure to have sepsis, and whenever you have a case of sepsis in a woman with placenta previa, you have got a sepsis that may prove fatal to the patient. I have had two cases of sepsis with placenta previa; one had a rupture of the cervix,

and the other did not. The vagina was packed aseptically; it was done two or three times, once by myself and at other times by other physicians. But the woman had a fatal sepsis.

While we must take care of these cases ourselves, unfortunately a great many of us are not so situated that we can take our cases to a surgeon.

DR. H. G. SMITH, Cedarville, N. J.: In the Lying-In Hospital of New York there have recently been reported eleven cases of placenta previa treated by Dr. Markoe and by Dr. MacPherson by the high incision of Cesarean section, with one case of death from sepsis which had been handled for three or four days by a midwife on the lower East Side; otherwise the eleven patients under hospital supervision were placed on the table and the operation performed, with ten recoveries, maternal, and ten recoveries, fetal or infantile.

It was my luck about three and a half weeks ago to have a case develop in the institution with which I am connected, the Insane Hospital, of placenta previa, that was so diagnosed. The woman had been in the hospital four and a half or five months. The case was diagnosed as placenta previa and consultation called. It fell to my lot to take care of the woman. I advocated Cesarean section, and with the assistance of my associates I performed this operation. I delivered a male child that weighed eight and a half pounds through the incision. The woman was placed in bed after the laparotomy, and when I left last Thursday she was about the ward, and from my observation of this case and from personal conversation with those men who have had an extensive experience in New York, we cannot recommend too highly Cesarean section.

DR. BLANTON (*closing*): I have nothing special to add to what I have said in the paper except to thank you for the interest you have taken in its discussion. I might further add in regard to this case reported that the woman gave a history of having been engaged in very heavy manual labor during the first three months of gestation. Her husband most of the time was away from home, and this necessitated her having general supervision over the farm and of doing heavy manual labor.

Dr. McCampbell seems to have been under the impression that the case might have been one of detached placenta rather than a placenta previa. If I had not been present, I would have been of the same impression, but I delivered the placenta and know that it was partially adherent, and not a detached one in any sense of the term.

AMERICAN PROCTOLOGIC SOCIETY.

Fourteenth Annual Meeting.
ATLANTIC CITY, JUNE 3 AND 4, 1912.

RELATIONSHIP AND DUTIES OF "THE PROCTOLOGIST" TO THE PROFESSION.

By JOHN L. JELKS, of Memphis, Tenn.

He stated that this Society was an innovation when organized—a strange vessel on the high seas. A child of American medicine, it has now become a sprightly youth, with ambition and strength of purpose, having and exercising authority.

The medical world recognizes as authoritative the expressions of its fellows in the field covered.

He admonished discretion, thorough description and perfection of technic. Hasty speech or carelessly written papers cannot be erased or changed; in their publication they become a permanent record.

He referred to the theories of our science, which were born of dreamers and nurtured by enthusiasts, and fancies no solid superstructure could be reared on foundations so infirm, adding that neither these, nor the honor, distinction, nor the gain they held out, should be sufficient to determine the surgeon to make merchandise of theories.

He called attention to the obstacles this Society had encountered because of these fragile theories, which had previous to its existence been set up as targets for those who were unfavorable to the development and progress of this specialty.

He considered the true surgeon and specialist as humanitarians, whose purpose is to save life, restore health and happiness; and admonished him to shield and protect his brother from the darts aimed to destroy.

He also referred to cancer in the rectum, sigmoid or colon, which may have been treated as of minor significance until metastases are so extensive as to preclude hope of a cure. He praised those proctologists who have with much patience and fortitude labored for and finally overthrown that unfortunate assignment of malignant rectal and colonic patients to untimely graves.

He stated that much harm has been done by the profession in the establishment of drug habits among the American people for the relief of

constipation, as last year's symposium before this Society would show, and says the proctologist is best equipped to study these cases and arrive at the true etiology, pointing to means of relief.

The American people are living in tin cans and cracker boxes, sparing time only to catch the next train or meet the next market report, are storming their nervous systems with destructive toxins, filling sanatoria and health resorts with wrecks and lowering the scale of human usefulness and intelligence. None can more easily observe the impending catastrophe, or turn on the search light than the procto-enterologist, and scientist, who calls together the aids of chemistry, physiology, pathology and bacteriology and a fair degree of understanding as to the results of the methods and habits of life of the average American citizen, who is less careful in the selection of and preparation of his own food than that of his stock.

He complimented the fellowship of the Society, which is limited to fifty and has forty-three members, and stated no similar number of men are banded together in the civilized world who can boast of greater attainments for the science of medicine, or for humanity, almost every member being the author, or an associate author of a book, and these are all standard text or reference books in this branch. Most of them also have been inventors of valuable instruments or appliances applicable to this specialty.

He referred to some of the research work done by the fellows, and to the possibilities yet before them in procto-enterology.

He alluded to the intra- and extra-rectal and anal and colonic infections, the role they play, and the possible development of vaccine therapy and antitoxins in combating them. He stated that each fellow should carefully weigh his selected subject for these meetings, being mindful of the fact that the general profession is looking to this Society and its individual fellows for facts, not fancies; for proven remedies and techniques, and not fads.

The Society has attained an individuality, both national and international, and he reminded his fellows that there is labor yet to perform. That they must retain their progressive spirit and enthusiasm, lest they lapse into a state of self-satisfaction when retrogression will mean their ending.

He referred to the fact that few of the hospitals of this country permit additions to their staff of specialists in proctologic work, hence the general surgeon and the general practitioner are doing the work in these institutions about as these same men would do the ophthalmologic work, etc.

He recommended the addition to the American Medical Association of a section in which the subjects, Gastro-Enterology and Proctology or Procto-Enterology, may be discussed.

He advised closer confinement of the proctologists to this work to the exclusion of general work, and believed this will gain from the profession greater respect for this specialty, and that fewer of this class of cases will be referred to the general surgeon or be accepted by him for treatment.

Conservative life insurance companies are now convinced of the necessity of paying attention to the rectum and colon, and such instances as the writer's confidential reports to alert examiners of cases of amebic infection, adenomata, papillomata, syphilitic and tuberculous diseases, which the examiner would have overlooked, had impressed him with this fact, and he wondered if these and similar instances had not brought to the minds of medical referees the possible advisability of subjecting all applicants for large policies to a plurality of examiners. He advised the change of name of this Society to that of the American Procto-Enterologic Society, and stated that not one of the fellows of the Society had found he could eliminate from his work intra-abdominal intestinal work.

A REVIEW OF PROCTOLOGIC LITERATURE FOR 1911.

By SAMUEL T. EARLE, M.D., of Baltimore, Md.

Dr. Joseph F. Saphir, of New York City, the New York Medical Journal, 1911, vol. 93, page 216, gives a description of "A Syringe for Local Anaesthesia in Rectal Operations."

Von Dr. Erich Schlesinger, Berlin, Deutsche Medizinische Wochenschrift, February 9, 1911, reports "An Air Pessary for Keeping in Place Internal Hemorrhoids and Prolapse of the Rectum."

Dr. Thomas B. Noble, Indianapolis, Ind., American Journal of Obstetrics, 1910, vol. 61, page 259, has devised an instrument known as

the "Anastomat" to facilitate the end-to-end anastomosis in extirpation of the rectum and sigmoid.

Dr. Dudley Roberts, Brooklyn, N. Y., *The Proctologist*, 1910, vol. 4, gives a description of "A New Anal Speculum."

Dr. James F. Churchill, Chicago, Ill., *Surgery, Gynecology and Obstetrics*, vol. 11, 1911, page 205, gives an interesting paper on "Rectal Anaesthesia."

Leslie W. Dryland, M. R. C. S. England, L. R. C. P. London, D. P. H., *London Lancet*, 1910, vol 2, page 801, "An Operation for Prolapse of the Rectum."

Sidney Boyd replies to the above paper of Leslie Dryland's, *London Lancet*, 1910, vol. 2, page 1242.

Dr. L. L. McArthur, Chicago, Ill., *Journal of American Medical Association*, 1911, vol. 57, page 363, "Rectal Prolapse."

Dr. Kenneth A. J. MacKenzie, Portland, Ore., *Transactions of the American Surgical Association*, 1911, *Surgery, Gynecology and Obstetrics*, 1911, vol. 13, page 218, "Treatment of Fistula in Ano Without Mutilation of the Sphincters."

A. Campbell Magarey, M.B. Adelaide, M.R. C.S. England, *British Medical Journal*, 1911, vol. 2, page 71, "Hypertrophied Papillae of Morgagni."

POST-OPERATIVE CARE OF RECTAL CASES.

By WM. M. BEACH, M.D., of Pittsburg, Pa.

Success in the solution of proctologic problems is measured by the degree of perfection in the restoration of functional conditions involved. We must remove the disease, but it is quite as important that we have a care to secure to our patients perfect function.

Post-operative developments that need our attention are:

1. The disturbance of the nervous system.
2. The disturbance of the vascular system.
3. Digestive derangement.
4. Local conditions.

Post-operative neuroses are manifested by (a) shock, (b) nervousness, (c) pain, (d) sphincter-algia, (e) retention of urine.

Vascular aberrations are shown by (a) hemorrhage, (b) infection.

Gastro-intestinal derangements are (a) nausea, (b) constipation, (c) ampullar impaction.

The local wounds should be inspected daily by the operator.

If patients were given proper post-operative care, their dread of radical cures would quickly subside, and rectal surgeons would escape untoward sequelae they may be compelled to record.

PATULOUS ANUS: ITS CLINICAL SIGNIFICANCE.

By ALFRED J. ZOBEL, M.D., of San Francisco, Cal.

The condition of patulous anus results from an abnormal loss of tone in the sphincter muscles, which may be due to either a fault intrinsically within the muscle or to some disturbance in its nerve supply. When purely muscular the cause may be a direct injury to the muscle, an infiltration by a malignant or a syphilitic growth, a participation in a general muscular weakness, or the presence of a foreign body in the rectum which prevents the muscle from completely contracting. When the nerve supply to the sphincters is at fault, the causative lesion may be either central or peripheral.

Complete fecal incontinence does not necessarily follow when the anus becomes patulous. The external sphincter, when but slightly affected, sometimes is assisted in performing its function by an extra effort of the will and through augmenting the muscle's action by strongly contracting the glutei muscles and bringing them together.

A brief report of a few very interesting cases of patulous anus is given to illustrate the different causes of this condition, among them being a case of infiltration of the sphincters by a carcinomatous growth low down in the rectum; a case, the result of pederastic practices; a case, the result of a participation in a general alcoholic neuritis; cases in which it occurred in low intussusception of the bowel in children, and two cases where it appeared as one of the early signs of locomotor ataxia.

THE SURGERY OF COLONIC CONSTIPATION.

A Report of Thirteen Cases

By LOUIS J. HIRSCHMAN, M.D., of Detroit, Mich.

After presenting the histories, radiographs and reports of operative treatment of thirteen cases of obstipation due to colonic obstruction, dilatation, stricture and adhesions, Dr. Hirsch-

man has formulated several principles in dealing with his cases requiring colonic surgery. They are epitomized in the following conclusions:

1. Most cases of chronic constipation are colonic in origin and many are obstructive in type.

2. Many cases of so-called chronic constipation are, therefore, really colonic obstipation.

3. Many cases of colonic obstipation suffer from chronic dilatation of the colon with or without ptosis.

4. Radiography is a most vital necessity in the diagnosis of all cases of chronic interference with bowel function. Its negative value may be greater than its positive.

5. A chronically over-distended colon, whether adherent or not, never again becomes a normally functioning bowel.

6. Intestinal adhesions usually tend to recur in increased intensity, and adhesions only cause symptoms when put under stress or tension.

7. The prevention of tension in physiologic rest to the affected organ, and colonic rest is obtained only by colectomy, colostomy or exclusion.

8. Colectomy, as advocated by Lane, is an operation seldom advisable and has many obvious objections from the standpoint of patient and physician. It is too grave a procedure to be undertaken except in the most aggravated cases.

9. Strictures, neoplasms and other obstructions should be removed by excision of the diseased tissue and lateral anastomosis of the bowel.

10. Exclusion by ileo-colostomy is safe, easy to perform and most satisfactory in the restoration of normal peristalsis and consequently normal health.

11. Results speak more eloquently than words. After an experience with nearly fifty cases requiring exclusion or resection of the colon for obstructive constipation, with but one failure, the writer felt fully justified in recommending it to careful consideration in all cases of aggravated colonic obstipation, whether congenital, post-operative or dependent on some mechanical obstruction or narrowing of the bowel.

THE ROENTGENOLOGIC METHOD OF EXAMINING CASES OF CONSTIPATION AND OBSTIPATION.

A METHOD OF VISUALIZATION OF ABDOMINAL LESIONS OF THE INTESTINAL TRACT.

By ARTHUR F. HOLDING, M.D., of New York City, N. Y.

The author noted that current text-books on diagnosis written by eminent authorities are still copying cuts which were drawn by some artist rather than by an anatomist. Let us hope that the striking proof furnished (by the X-Rays) of the fallacy of such teaching will be effective, and perhaps not one of the least results will be to cause true illustrations to be placed before our students' eyes.

The normal position of the colon and the parts of the intestine that can ordinarily be visualized by means of bismuth ingesta and the X-Rays are:

(1) The first portion of the duodenum; (2) the jejunum; (3) the ileum; (4) all parts of the colon; in some cases the second and third portions of the duodenum and the appendix can be visualized.

The accuracy, reliability and interpretation of findings by this method, however, may well receive our careful attention.

In the first place, this method does not cause gastro-intestinal symptoms, such as nausea, vomiting, diarrhea, constipation, gastro-intestinal or general symptoms other than are present when buttermilk alone is ingested. It is, therefore, logical to assume that the buttermilk-bismuth mixture does not irritate the mucous membrane and gives a true picture of the motor activities of the patient's intestines.

By fluoroscopy and by radiography in the erect or prone positions, or both, an accurate outline of the lumen of the tract can be obtained, especially where there is any obstruction to the onward progress of the intestinal contents. The individual peristaltic waves can be accurately registered on a special photographic emulsion that is far more sensitive than the human retina, and the progress of the peristaltic waves can thus be seen functioning under normal conditions, the patient and his abdominal contents not relaxed by a general anaesthetic; the secretions and motility not disturbed by the presence of an irritating foreign body, such as a stomach tube; the conclusion not based on inference deduced from chemical re-

actions of juices obtained by abnormal and irritating measures. The organic outlines obtained in X-Ray plates is even more conclusive and reliable than the information obtained by the sense of touch, whether that be applied over the intact abdominal wall or to the viscera laid bare by an exploratory incision. The radiographic emulsion and the retina are the two most sensitive methods of observation possessed by man, far out-ranking in their acuteness either the drum membrane or the sense of touch. It has been contended that the abdominal operation was more accurate than an X-Ray examination, because it laid bare the "naked truth." The finality of this argument is based more on the sound of the words than in fact, as anyone knows who has had an opportunity to use both methods on the same case.

On the other hand, there is great danger of arriving at wrong conclusions in using the X-Ray method, especially when the examination is based on too few plates or is only an examination of a suspected part of the thirty-odd feet of intestinal canal.

We must not let seniority interfere with our recognition of the superiority of methods employed by us for diagnosis. No progressive proctologist or surgeon should depend on any one method, but should use them all in examining cases, and in obscure cases he should not hesitate to insist upon supplementing the more common methods of examination with a radiologic examination, regardless of the expense involved.

The various lesions and conditions that have been successfully shown by the X-Ray method are atonic and spastic constipation; congenital anomalies of the tract, such as non-rotation of the cecum and narrowing or insufficiency of the ileo-cecal valve; adhesions; kinks, with or without adhesions (including Lane's); ulcers; tumors within the canal and tumors pressing upon the intestines from without.

It must be borne in mind that a palpable tumor disappearing after the administration of an enema or a cathartic, even if followed by improvement in the patient's condition, is not proof that the tumor was feces.

The Roentgenologic method of clarifying difficult conditions present in patients will no doubt be gladly welcomed and widely utilized by surgeons, who, as a class, deserve our greatest re-

spect and admiration for their courage in attacking many ordinarily undiagnosable conditions by cutting boldly into the abdomen and making their diagnosis by inspection, and thereupon instituting impromptu surgical procedures in order to correct the conditions found. Many times the condition found within the abdomen is entirely different from that which was expected. When these difficult situations can be accurately known before the operation is begun; when the surgical procedures can be accurately predetermined; when much time (previously lost exploring the abdomen) can be saved; when the duration of the patient's anaesthesia can be proportionately shortened; when the surgeon will be saved the tremendous nervous strain and responsibility of emergency decisions and procedures, the surgeon must recognize that his operative statistics will necessarily be better, his patients are going to recover quicker, and more of them, and, finally, the years of a surgeon's own life and usefulness will be increased.

The only great drawback to the general adoption of this method is its necessarily great expense.

VALVOTOMY.

By GEORGE B. EVANS, M.D., Dayton, Ohio.

The author discussed:

Valvotomy as a means for the relief of proctitis.

Valvotomy as a means for the relief of obstipation and constipation.

Valvotomy as a means for the relief of distinct and isolated ulceration of the distal side and adjacent to the valve.

Valvotomy as a means in the elimination of bladder and prostatic symptoms reflexly.

The location of the valves. Every case of valvular trouble is accompanied by pathological changes in the valves, and, if in the valve, then in the adjacent tissues.

Valvular obstructions are prolific of more trouble than we give them credit for.

Valvular obstructions are causative factors in the production of obstipation in a large per cent of our cases.

Valvotomy is a justifiable operation, as it not only relieves obstipation and constipation, but often causes reflex and neurasthenic symptoms to

disappear, frequently ameliorates and even cures proctitis, and, by virtue of the draining it secures, lessens the tendency to toxemia of intestinal origin.

MULTIPLE ADENOMATA OF THE RECTUM.

A Report of a Case with Symptomatic Relief by Simple Remedies.

By E. H. TERRELL, M.D., of Richmond, Va.

This article was a report of a case of multiple adenomata of the rectum and sigmoid in a patient 42 years of age, who had been suffering for the past five years. He had frequent stools with mucus, some blood and a great deal of tenesmus. He was having from eight to ten stools daily. He suffered considerable pain throughout the abdomen. Examination showed numerous small tumors scattered through the rectum and sigmoid. Microscopic examination showed these growths to be adenomas. The bowel was intensely inflamed and contained many ulcers. Under irrigation of the bowel with boric acid and the administration by mouth of castor oil and aromatic syrup of rhubarb, improvement was almost immediate. In three and a half months the patient had gained seven and a half pounds and was comparatively comfortable. The tumors were reduced in size and the ulcers gradually disappeared. While the adenomas are still present, the patient is symptomatically cured.

Dr. Terrell emphasized the value of the administration of equal parts of rhubarb and castor oil, and thinks that in simple ulceration of the rectum this treatment alone is almost a specific. He calls attention to many reports of cases in which adenomas of the rectum are supposed to disappear, and points out that this condition must be merely a hyperplasia with inflammation, and not true tumors, for the latter are permanent. As regards the predisposition of adenomata to become cancerous, he called attention to the fact that these tumors are benign and are consequently composed of mature tissue, so they cannot themselves become immature tissue, which is malignancy. Instead of a malignant degeneration, it is likely that matrices of immature tissue have also been deposited where so many matrices of mature tissue are found, and the growth of the adenomata, with the accompanying inflam-

mation and ulceration, stimulates these immature matrices to develop into cancer, or else immature matrices are formed from the ulcers, just as they develop from ulcers in cancer of the stomach. The simple treatment which he proposed not only relieves the patient's symptoms, but, by lessening the inflammation and curing the ulcers, it also decreases the chances for subsequent malignancy.

PIGMENTATION OF THE RECTUM AND SIGMOID.

By JEROME M. LYNCH, M.D., of New York City, New York.

The paper was based on six cases which came under the observation of Dr. Tuttle and himself. He divided pigmentation into exogenous and endogenous.

Endogenous	{	Hemochromatosis
		Pseudomelanosis
		Melanosis
Exogenous	{	Pigmentation due to Chemicals
		or
		Metallic Pigmentation

He proceeded to discuss the origin of pigment, and considered Pick's theory concerning the origin of melanosis in pigmentation of the large bowel particularly interesting.

It is as follows: That the connective tissue cells possess an enzyme tyrosinase which converts aromatic bodies into melanin.

After having reviewed the subject of pigmentation, he reached the following conclusions:

That hemochromatosis is of bacterial origin; that the extent of the disease is dependent upon the severity of the infection; that the probable source of infection is the intestinal tract, possibly starting as an intestinal putrefaction; that this intestinal putrefaction lowers the vitality of the tissues and thereby the cells of the mucous membrane lose their protective properties, consequently bacteria find ready access to the portal circulation; as a result of this the chromogenic function of the liver is interfered with, consequently the liver becomes surfeited with pigment and is not capable of abstracting the iron from the hemoglobin, with the result that an excessive amount of pigment is circulating in the blood; that the cells of the intestine probably have a

selective action for these pigments, and as a consequence they are deposited in the tissue; that local hemochromatosis may be due to repeated local hemorrhages, followed by infection, and that, as a result of this infection, the bacteria cause an hemolysis of the blood-forming pigment which resembles hemosiderin, hemotoiden and hemofucin. That these pigments may or may not give a reaction for iron.

So little is known about the structural products of melanin or melanoids that it is difficult to give the origin of those bodies. Undoubtedly there are several distinct melanins, and their origin must also be distinct. The ferruginous melanins should be considered as originating from the blood pigment until further research proves the contrary. Most melanins yield endol, skatol and pyrol. It has been proved that the enzyme tyrosinase is present in the tissues, and, further, that this enzyme is capable of converting aromatic bodies into melanin.

That Pick's theory is ingenious and worthy of consideration we admit, but there are points that are hard to reconcile with our present conception of cellular activity.

It is hard to understand why he should attribute to connective tissue cells a highly specialized function; that this is directly opposed to all our preconceived notions of this cell, which heretofore has been supposed to have only one function—that of binding other tissues together, with an enzyme for its own nourishment.

It is a well-known fact that the cells of the mucous membrane have the power of neutralizing poisons and converting them into insoluble compounds. In the case of mercury and lead they are converted into sulphides, and, as a result of this change, blackening of the tissues, somewhat resembling melanin, takes place.

Drs. Tuttle and Lynch believe that the cases reported by the English observers were as stated and should not have been included in Pick's series. Further, that as a result of the action of sulphate of hydrogen on the iron pigments, an insoluble sulphide of iron is formed and blackening of the tissues takes place. This is a separate and distinct form of pigmentation and should not be confounded with melanosis.

OBSERVATIONS UPON THE RELATIONSHIP OF TUBERCULOSIS TO PERI-RECTAL SUPPURATIONS.

By COLLIER F. MARTIN, M.D., of Philadelphia, Pa.

The author has found pulmonary tuberculosis so frequently associated with his cases of peri-rectal suppuration that he determined to report a consecutive series of cases, with findings.

The report comprises 376 consecutive cases, 75 per cent being males, and ranging in age from 7 months to 87 years. The majority of these cases (322) occurred in the most active period of life—from 20 to 60 years.

He divided his cases into four major groups—the actively tubercular (144 cases); the chronically tubercular (68 cases); the phthisenoid (20 cases), and those patients in apparently good health (55 cases). This would indicate that at least 212 cases, or 61 per cent, were cases of known tuberculosis.

There were 309 operations performed on 306 patients under various anaesthetics—spinal anaesthesia, 145 times; ether, 54 times, and local and other anaesthetics on the remaining. He chose spinal anaesthesia where no other preference was expressed by the patient or the attending physician on account of the associated tuberculosis.

Following these cases for the past four years, he has traced 37 deaths, of which 34 died of active tuberculosis or its complications.

The abscesses or fistulae in most of these cases could not be classified, from their appearance, as being locally tuberculosis. Where the tubercle bacillus was easily recovered from the tissues or discharges, there was usually a very active pulmonary infection present.

The writer believes that the usual explanation of the association of pulmonary tuberculosis with rectal suppurations lies in the fact that any pulmonary lesion, however small or inactive, may so alter the patient's vital processes and so lower the opsonic index as to make him particularly susceptible to pyogenic invasion. The same may be said of pyogenic infections in general, but the peculiar anatomic conditions existing in the rectum and its very active physiologic function makes this a fertile region for external and internal trauma with subsequent inflammation and infection.

Traumatism is considered to be the chief active factor in impairing the integrity of the tissues.

The writer emphasized the fact that a careful lung examination should be made in all cases of peri-rectal suppuration. He also made a strong plea for a careful and extended supervision of the patient's general health for a long period after all surgical treatment had been discontinued.

The vital consideration in these cases is not the question as to whether or not the local lesion is tuberculous, but has to do with the presence or absence of active or latent tuberculosis in the patient and his chances of having good general health after surgical intervention.

ANO-RECTAL DISEASE DUE TO VENEREAL INFECTION.

By JAMES A. M'VEIGH, M.D., of Detroit, Mich.

Venereal disease is an important factor in the etiology of disease in all parts of the human system. Regional relationship of genital organs to anus and rectum render the latter especially prone to this kind of infection. Venereal disease of anus and rectum, either direct, through practice of vicious habits, or indirect or accidental, through extension of infection to these parts from other sources. Less direct infection of this nature in this than in foreign countries. Gonorrhoea, chancroid and syphilis, the principal venereal factors in ano-rectal disease. Description of symptoms, diagnosis and treatment of these conditions when appearing in disease of the rectum and anus. Report of a case.

FURTHER OBSERVATIONS ON PRURITUS ANI: ITS PROBABLE ETIOLOGIC FACTOR BASED UPON ORIGINAL RESEARCH.

By DWIGHT H. MURRAY, M.D., of Syracuse, N. Y.

This paper was a continuation of the work that the author has been engaged in for the past two years, and which he presented to the American Proctologic Society at the Los Angeles meeting in 1911.

From his experiences since discovering that a skin infection is the important factor in pruritus ani, he believes that we are now in a position

to state that there may be two varieties of pruritus ani—one that may be coincident with some of the diseases of the rectum and in which the skin infection is not present. He designates this form as pruritus ani simplex. The variety which is chronic in its character and in which the skin infection is present he designates as coccigenous pruritus ani.

He states that he is continually seeing patients who have all varieties of rectal diseases, including chronic diarrhea and proctitis, in many of which there is a leakage of moisture upon the anal skin. In very few of these cases does he find pruritus ani, and he believes that when it is present it is coincident rather than having been caused by these discharges occurring in various rectal diseases.

He gives a resume of an examination of 900 consecutive cases, in which he finds 490 cases of constipation, 369 of hemorrhoids and 94 of pruritus ani. Of the 94 cases which gave a history of pruritus ani, he finds that 5.5 per cent of the 900 cases examined who had pruritus ani were constipated, 2.3 per cent had hemorrhoids, 1.2 per cent had some form of anal growth, 2.2 per cent had ulceration, 2.5 per cent had diseased crypts, 1.3 per cent had hypertrophied papillae, .03 per cent had polypi, .03 per cent had fistulae. He believes that the relatively small percentage of each of these conditions that were present in the pruritus ani cases show that they were coincidental when present and could not be classed as causes of pruritus ani.

Thirty-two of these ninety-four pruritus cases have been examined bacteriologically by him, and all of them showed streptococci skin infection as the predominating condition.

He believes that the excess of moisture and the infiltrated condition of the skin in these cases are due to the low-grade inflammation caused by skin infection, and is not the result of moisture coming from the inside of the anal canal.

He presented photographs of petri-plates, of a typical case, showing the immense numbers of streptococci at the time of the first examination; another photograph of the same case, showing that streptococci were not present in the culture taken from the anal canal; and another photograph of a petri-plate, of the same case, after four months of treatment (one month after itch-

ing had ceased), in which last photograph no streptococci were present.

He gives a report of his technic in greater detail than in last year's paper, because he has found that the last year's report was not understood by some physicians who had employed his method.

From some reports received he believes that stock vaccines will not give good results because they are made of a different branch of the streptococcic family than the one causing pruritus ani.

He gives detailed reports of the cases treated, both of the first and second series, showing very marked improvement in all of the cases and cures, so far as present conditions are concerned, of others.

He presented a series of twelve control cases, having a variety of rectal diseases, that are usually given in text-books as causes of pruritus ani, none of which had the disease, nor did they show a skin infection.

He said that the conclusions of the first year's work still hold true, and he gave the conclusions of his second year's work as follows:

First—It is shown by the nine hundred consecutive cases of rectal diseases that constipation and hemorrhoids or any lesion are coincidental or may be predisposing, but not the exciting cause of pruritus ani.

Second—Even when there is a discharge of pus or other moisture on the skin about the anus, it is not the actual cause of pruritus ani, unless there is a streptococcic or other infection of the skin. They may exist together, but are then only a coincidence.

Third—All investigators, in making cultures, should use, in addition to the hard media, the liquid media and Gordon's series of carbohydrates if they wish to differentiate the streptococci and other bacteria.

Fourth—Avoid excessive reaction.

Fifth—Use small initial doses.

Sixth—Give subsequent injections only after the previous reaction has completely subsided.

Seventh—He suggests the following change in the nomenclature of pruritus ani by recognizing two varieties: Pruritus Ani Simplex and Pruritus Ani Coccigenous.

COLONIC DILATATION (CONGENITAL AND ACQUIRED) AS A FACTOR IN CHRONIC INTESTINAL OBSTRUCTION (OBSTIPATION).

By SAMUEL G. GANT, M.D., of New York City, New York.

The author stated that his experience warrants the belief that both acquired and congenital (Hirschsprung's) dilatation of the colon is fairly common, and that they respond satisfactorily to treatment (usually surgical). He said that non-congenital dilatation of the bowel might result from paresis, gourmandizing, digestive disturbances or chronic intestinal obstruction, however caused, and, when present, leads to constipation, fecal impaction, distension of the bowel, angulation, twisting and ptosis of the colon. He called attention to the fact that this class of patients suffered much less from intestinal auto-intoxication than persons afflicted with acute constipation. In his cases the colon completely filled the abdomen, measured from three to many times its normal size, was considerably thickened, characterized by dilated blood vessels, and closely resembled an enormously hypertrophied stomach—for which it was mistaken in two instances. He mentioned having personally observed seven cases of Hirschsprung's disease and a still greater number of acquired dilatation, wherein the patients had an evacuation every two or three weeks, following purgation and frequent enemata, except in two instances—that of a young boy, who moved his bowels only once in two months, and of a young woman, who succeeded in accomplishing this but four times yearly. He said that the chief manifestations of the condition were those of chronic constipation and fecal impaction, plus malnutrition, abdominal distension, pot-belly, extraordinary length of time between the movements and very large amount of feces discharged when an evacuation occurred, and that the diagnosis is fairly easy in the presence of the above symptom complex, because, with the aid of inflation and palpation or the assistance of the X-Ray, the size and position of the colon can be defined.

The writer maintained that temporary improvement occasionally follows medication and physical measures which strengthen the bowel or minimize the effects of auto-intoxication consequent upon fecal retention, and that patients

may for weeks or years be kept fairly comfortable when given close attention and the bowel is kept open with lubricating oils, laxatives and frequent high enemata, but that a cure is not possible except through one of the following surgical measures, viz:

1. Coloplication.
2. Colopexy.
3. Resection.
4. Intestinal exclusion.
5. Colostomy.
6. Tapping.

He found coloplication effective in both congenital and acquired dilatation without bowel displacement. Colopexy proved satisfactory where there was ptosis with moderate dilatation, but in aggravated cases, where the bowel was both enormously dilated and markedly ptotic, he advised coloplication and colopexy, using the infolding sutures for suspensory purposes.

He advised resection of all or part of the colon where it was irretrievably large, displaced or bound down by adhesions, and reported a case where the sigmoid flexure, descending colon and left half of the transverse colon were excised.

Exclusion had proven satisfactory, and he reported five cases treated by dividing the ileum near the cecum, and completing the exclusion by ileo-sigmoidostomy.

Colostomy was looked upon with ill-favor because patients strenuously object to an artificial anus, and a secondary and dangerous operation is required to re-establish continuity of the intestines.

Tapping, he said, deserved no consideration because it is unscientific, dangerous and ineffective.

In closing Dr. Gant said that he frequently combined the above operations with appendicostomy or cecostomy, so that through-and-through irrigation could be immediately established and the period of convalescence shortened. He also stated that colonic exclusion and colostomy were considerably less dangerous than resection, and were usually effective, since the bowel rapidly contracts after their establishment.

ACUTE POST-OPERATIVE INTESTINAL PARESIS.

By J. A. MACMILLAN, M.D., of Detroit, Mich.

1. Definition: A paralysis of a portion of the intestine which suddenly dilates and becomes the receptacle for gas and fecal material.

2. Etiology: Not known, but probably due to sepsis, trauma, etc.

3. The lesion is probably in the sympathetic nervous system.

4. The treatment consists of gastric lavage, enemata and enterostomy.

5. Precautions attending a secondary operation.

PROPHYLAXIS AND TREATMENT OF POST-OPERATIVE RETENTION OF URINE.

By FRANK C. YEOMANS, M.D., of New York City, N. Y.

Ascertain and correct, if possible, lesions of the urethra and bladder in advance of operation.

Physiology of urination: Factors that interfere with it after operation.

Prophylaxis: Urinary antiseptics and posture.

Treatment: Suggestion, local applications, medicine, standing aseptic catheterization.

INTRA-RECTAL RUPTURE OF SUPPURATING SINUS FROM HIP-JOINT DISEASE.

By RALPH W. JACKSON, M.D., of Fall River, Mass.

To meet the difficult problems presented by an unusual case involving the rupture, internally, into the rectum, and, externally, near the anus, of a sinus from a tubercular hip, the writer has sought, by radiographic study, research of literature and correspondence with proctologic and orthopedic authorities, information as to the frequency, pathology and operative possibilities of such cases, and with the following conclusions:

1. That intra-anal or rectal rupture of a coxitic sinus occurs rarely, but not with extreme infrequency.

2. That such opening involves probably considerable mixed infection of the joint beyond what would occur if the opening were external.

3. That likewise tubercular infection of the rectum might arise.

4. That intra-anal opening is quite easily

treated and much of the mutual risk of infection removed.

5. That intra-rectal opening is in most cases (unless the sinus approaches from low down) too high to turn aside in any way and give an external discharge, and consequently the risk must continue.

6. That operating for such purpose is likely to create at once a complete rectal fistula where none existed before because of the surgical difficulties in the way of securing permanent closure of the internal opening.

7. That it is a very rare and most unfortunate occurrence for such an abscess to point both externally and internally; an external incision should be made if sure that internal rupture has not occurred, but avoided if possible if it has occurred because of the fistula thereby created.

8. That whatever the etiology, such a fistula is a particularly troublesome one, and the wisdom of trying to better it surgically is fairly debatable ground.

PRELIMINARY REPORT OF TWO CASES.

(a) *Keloidal Tuberculoma.*

(b) *Fibromatous Keloid.*

By ALOIS B. GRAHAM, A.M., M.D., of Indianapolis, Ind.

The writer presented a brief preliminary report of two exceedingly rare rectal cases. Both of the cases are of interest, in that they emphasize the following points:

1. A benign neoplasm, involving the peri-anal, peri-rectal and surrounding structures, may be the end result of an inflammation of these structures.

2. An inflammation of these structures is due, in a large proportion of cases, to extension from an anal or rectal inflammation.

3. A benign neoplasm may produce a marked deformity of the structures which it involves. (The writer showed photographs of his two cases.)

4. A careful pathologic study is essential for making a correct diagnosis of the neoplasm.

5. A correct diagnosis of the neoplasm can be made, and yet its etiology remains vague.

A history of the cases was given, together with a description of the operations performed. The pathological report shows one case to be keloidal

tuberculoma, the other fibromatous keloid. The first case insisted upon leaving the hospital and was discharged as improved. The second case, that of fibromatous keloid, is still under the observation of the writer. Hence the preliminary report.

In conclusion, the writer stated his object in reporting these two cases. He is firm in his belief that an anal or rectal inflammation was the origin of the diseased conditions presented by these patients. Both cases, therefore, emphasize the necessity for and the importance of rectal examinations. It matters not how slight the ailment may be, a careful inspection of the anus and rectum should be made. If such a rule were followed by every physician and surgeon, such case reports would not be possible.

SOME PRACTICAL POINTS GLEANED FROM THE OBSERVATIONS OF A PROCTOLOGIST.

By SAMUEL T. EARLE, M.D., of Baltimore, Md.

Dr. Earle reported a case of primary tubercular ulceration of the right buttock which was not connected with the rectum by a fistulous tract. In this respect it differed from the one reported by him in his work on "Diseases of the Anus, Rectum and Sigmoid," figure 62, page 201. It was excised by the thermo-cautery knife, after which it healed very promptly.

Dr. Earle also reported a very aggravated case of pruritus ani which had resisted local applications, autogenous vaccines and treatment by the X-Ray. Under local anaesthesia he found an ulcer over the posterior commissure just above the internal sphincter, which connected on each side with numerous submucous and subcutaneous superficial fistulae which enveloped the entire anal margin and connected with each crypt of Morgagni. The ulcer was incised, the scar tissue at its base removed, and the fistulous tracts were all opened up. There was only an occasional twinge of itching following the operation, and he made a speedy recovery.

THE SUB-NORMAL COLONIC FUNCTION AS A DIATHESIS.

By J. COLES BRICK, M.D., of Philadelphia, Pa.

The writer was led to investigate the causes of a persistent case of constipation which had existed since childhood, and which was of an aver-

age duration of seven days, in a young woman of 18 who was in seemingly good health, but whose father had the same condition and had subsequently developed a case of chronic arthritis deformans. The young woman had been treated by many doctors and by many methods, but all without any more than temporary success.

Resort was finally made to X-Ray examination after giving a bismuth meal. The plates showed that at two points—viz: the cecum and the rectum—the colonic contents remained for three days and operative measures were decided on. No abnormality was found except an old and thickened appendix containing three concretions and the tip being adherent to the ovary. As there were some moderate-sized hemorrhoids present, these were removed at the same time as the appendix, and the patient made a good recovery. The X-Ray plate showed a very moderate degree of visceroptosis, and a "Storm" belt was ordered. The patient has had a regular bowel movement daily, with the use of a mild laxative, which it had been impossible to produce at any previous time.

Examination of the X-Ray plates showed a bilateral calcification of the costal cartillages, which the writer thought was an early symptom of arthritis deformans, and after discussing the various theories of the cause of the disease, accepts the theory that it is a toxic trophoneurosis affecting the cerebro-spinal nerves, with its infectious focus in the gastro-intestinal canal.

The essayist believes that all cases of persistent constipation should be examined by all the means at our command, and finally, not only by the administration of bismuth by the mouth, but by injection, with X-Ray examination. Conditions requiring operative interference may frequently be found and corrected surgically.

Arthritis deformans is a most ancient disease, and evidences of many cases are shown to have existed before the Pyramids were built, and it is not only possible, but probable that the infection comes from the intestinal tract; and if the cause is removed early, before the destructive changes have occurred, these cases can be cured, and even the advanced cases have their progress arrested.

THE THREE-STEP OPERATION IN TUMORS OF THE SIGMOID AND COLON.

By JAMES P. TUTTLE, A.M., M.D., of New York City, N. Y.

Dr. Tuttle described the operation as follows: Incision is made in the outer border of the left rectus. Tumor is brought out on the abdominal wall. Peritoneal layers of the meso-sigmoid are incised well above and below the tumor and stripped back so as to expose the blood vessels, fat and glands which may be in the meso-sigmoid; the latter are stripped toward the intestine until the blood vessels are bare and the supply to the bowel is easily visible. The sigmoidal artery is tied in two places and cut between, and the proximal stump dropped back into the abdominal cavity. The raw surface in the abdomen is covered over by suturing the two peritoneal layers of the meso-sigmoid together over the arterial stump. The two legs of the sigmoid are sewed together laterally to make a spur, after the method of Bodine. The peritoneum is sewed around the bowel, the muscles drawn together, the skin wound closed, attaching it to the bowel. In forty-eight hours the tumor is excised by a V-shaped incision. Two days later the spur is cut away by pressure forceps. After this is completed a long rectal bougie is passed up through the bowel beyond the artificial anus in order to press the spur back and obtain a large calibre at the site of the resection. When the wound made by the pressure forceps is healed, the artificial anus is closed by the extra-peritoneal method of the author.

THE X-RAYS AS AN AID IN MAKING DIAGNOSES OF CONDITIONS IN THE RECTUM AND OTHER PORTIONS OF THE LARGE INTESTINE.

By J. R. PENNINGTON, M.D., of Chicago, Ill.

The author stated that while the rectum is easily inspected by various specula, and the sigmoid is less readily accessible by the use of sigmoidoscopes, such as the one with inflation devised by him, the colon is inaccessible and its exact position difficult to ascertain. Very often it is also difficult to determine and locate pathologic conditions in the large intestines.

Until recently the means of diagnosis have been limited to those used in other portions of

the alimentary canal, viz: Inspection after dilatation of the bowel with air or water, palpation, percussion, and trans-illumination. All of these are open to the objection that they are uncertain.

The writer observed in the latter part of 1899 that by introducing some agent into the large bowel which would cast a shadow, the X-Rays may become useful in making a diagnosis of conditions in the twin cavities. It is only recently, however, that such procedures have become of practical value.

A bismuth meal is useful in diseases of the stomach or duodenum, the agent being suspended in milk, acacia water, thick soup or some similar vehicle.

But for the large bowel the action of bismuth *per os* is very slow. One author estimates that it requires from twelve to fifteen hours for the

bismuth mixture to reach the ileo-cecal valve, about twenty-four hours to gain the transverse colon and thirty-six hours to penetrate to the sigmoid. By the method advocated this is done, so to speak, instantaneously.

Coming now to the technic: The patient's bowels are first cleansed by means of laxatives and injections. He is then placed in the knee-shoulder position, and from twenty-five to thirty ounces of the mixture used for casting the shadow injected into the large intestine. For this purpose the author uses an ordinary irrigator and a short rectal tip. A long rectal or colonic tube for administering the injection is unnecessary. After the suspension is injected, the patient lies on his right side for a few moments so part of the menstrum may pass into the cecum. He is then placed in either dorsal or ventral position on the radiographic table and the picture taken.

THE JOURNAL*of the***Tennessee State Medical Association****Office of Publication, Jackson Building, Nashville, Tenn.****SEPTEMBER, 1912,****EDITORIALS****TENNESSEE'S NEEDS IN MEDICAL
LEGISLATION.**

If Tennessee is to keep abreast of her sister states with reference to her statutory provisions along health lines, she must be up and doing. Already her position has become exceedingly lonely in some respects. This is notably true in the matter of vital statistics legislation. With few exceptions, the older states, and many of the younger ones, have adopted the Model Law and so put themselves in line to be included in the registration area of the federal census. The resulting advantages to the country at large, as well as to the individual states, are self-evident.

The State Board of Health finds itself in an embarrassing dilemma on account of the lack of an adequate vital statistics law. Under the stimulus of the newly awakened popular interest in health questions requests for accurate information as to the prevalence of certain diseases and the mortality rate from others in the state are coming in from various sources. Authentic answers cannot be given. The results are that a valuable means of instructing the public is lost, and the state continues to suffer under charges and implications which cannot be authoritatively refuted.

The medical inspection of school children is another important measure which should receive the attention of the next Legislature. A most admirable bill covering this subject was introduced at the last session, and, in spite of the vigorous and sinister opposition it met with, would doubtless have been passed had it not been

for the unfortunate political complications which developed and which for weeks tied up the whole legislative machinery. Teachers are naturally in the best position to realize the needs of this measure, and it is of the utmost significance that it was unanimously endorsed by the various Teachers' Associations of the state as well as by prominent state officials and educators.

On account of inaccessibility and other unfavorable conditions in certain remote counties, it would hardly be wise to make the bill on this subject too sweeping in its provisions. But it certainly should be mandatory in the larger counties and should contain provisions for extending its benefits to all others as rapidly as found practicable. Many a dull and backward pupil is so because of physical defects which might easily be recognized and corrected; and many a new-made grave each year holds the form of a little child, victim to disease contracted in the school-room, which might have been prevented.

Another important measure which the profession should get behind as a unit is the revised Medical Practice Act. The present law is defective in several important particulars. It provides for temporary licensing of undergraduates which is now universally regarded as a menace to the people, a hardship upon the profession, and a great injustice to the undergraduates themselves. It provides no adequate protection against advertising charlatans, untrained midwives, and lawless itinerant nostrum vendors. It does not provide for reciprocity with other states as endorsed by the State Medical Association at its 1912 session. It does not provide for the appointment of members of the Board of Examiners from lists of names furnished by the several state medical organizations. The resolution on the last mentioned point adopted by the State Medical Association at its session of 1908, not having been rescinded, presumably still represents the desires of the organization in the matter.

Under present conditions, Tennessee is and

will continue to be overridden with quack doctors and peripatetic purveyors of patent panaceas, and in addition, as the laws of neighboring states are rapidly being perfected, will become to an increasing degree the dumping ground of professional refuse of every description.

Still another measure which should be considered by the next Legislature, unless the idea is to be definitely abandoned, grows out of the action taken by the State Medical Association at the 1908 session held in Knoxville. The same instructions were issued with respect to the securing of a law providing for the filling of vacancies on the State Board of Health as on the State Board of Medical Examiners, namely, that appointments should be made from lists of names supplied by the several state medical organizations. Whether or not this represents the present attitude of the profession on this important question is somewhat uncertain. The recent upheaval in the State Board of Health, occurring without warning and evidently as a mere incident in the game of partisan politics, has caused many to conclude that it might be better to divorce both boards entirely from politics and invest full authority in all health matters and activities in a non-partisan State Bureau or Commission of Health. Certainly, it is not reasonable to suppose that the interests of the state in these vastly important matters can be as effectively safeguarded under the present loose system as they could be under the more stable plan referred to.

In addition to the needs above specifically mentioned, there are many others of equal though relative importance. The State Board of Health needs and should have a more generous appropriation. The problems of state medicine and the necessity of state aid in solving them have increased many fold in the past decade; yet the amount of the funds set apart to meet these growing needs has remained practically unchanged. It is a disgrace to the state as well as a distinct menace to her citizenship that a great department charged with duties in comparison with

which those of other state departments are secondary, not to say trivial, should be constantly handicapped in its work for lack of adequate funds. A state laboratory is urgently needed and an appropriation sufficient in amount to conduct it properly and to maintain the other activities of the Board in a manner in keeping with their importance and the dignity of the state should be provided.

Much of the foregoing applies as well to the department of foods and drugs. In this respect at least Tennessee stands in good repute, though the appropriation for the work has been inadequate from the beginning. Niggardliness here is equally shameful and might easily become equally disastrous.

The only way to be sure that the health interests of the state will receive proper attention from the Legislature is to see that prospective senators and representatives have an intelligent grasp of the questions involved and will lend their active co-operation in the enactment of the needed laws. The State Association has a splendid committee on Public Policy and Legislation for the current year; but these men will not have the opportunity and cannot be expected to do the preliminary work of education with the legislators which is so important. If, by forethought and earnest interest on the part of the profession, the members of the Legislature should assemble in Nashville in January, each one having been informed by physicians whom he knows personally and who have his confidence, on the importance of health matters in general and of certain health legislation in particular, there would be little doubt of the fate of any worthy measure.

In only a few weeks after this issue of the *JOURNAL* reaches its readers, the personnel of the Legislature of 1913 will have been determined. After that it may be difficult or impossible to do effective work. The accepted time is *NOW*. Little effort on the part of the individual physician would be required; but, if all would co-operate, the result would be irresistible.

NEWSPAPER MEDICINE.

The attitude of the average newspaper on the subject of human health is a curiously anomalous one. It is not at all unusual to find in the same issue an insidious "reading notice" of some impossible new cure, a half column of grossly deceptive rot exploiting sundry fraudulent remedies under the seductive caption of "Beauty Hints," various glaringly open advertisements of the most brazen nostrums, and a well-conceived and forcibly written editorial discussing some important sanitary problem or commending a new achievement in medicine or surgery.

Newspapers are universally conceded to be the most powerful factors in modern life. By them public opinion is molded, the policies of government influenced, and the destinies of community, commonwealth, and nation largely directed and controlled. No one imagines that they are or should be conducted purely from altruistic motives, or that they should not live and profit by their labors. But it is hard to reconcile the evident high purposes of the editorial offices with the equally evident sordid practices of the counting-rooms. Instead of a reciprocal harmony between these vitally correlated departments, there often seems to exist a divorce as utter and complete as though they belonged to entirely separate publications.

Inconsistency is not the burden of this well-meaning criticism; apparent lack of journalistic conscience is. We have no intention of assuming to dictate the policy of any publication. But we protest in the name of humanity that life and health are too important to be trifled with. No newspaper can serve its highest function that blows hot on its editorial page and cold in its reading and advertising columns. To cite a single example of the harm growing out of this all too common custom, the federal Pure Food and Drugs Law in an effort to protect the people provides that adulterated food products and drugs containing poisonous or injurious ingredients shall be plainly so branded upon their containers or labels. Yet the average newspaper will accept without question, advertisements of the same goods containing the most shameful and dangerous misstatements as to wholesomeness and harmlessness. The astute manufacturers recognize that the demand for their products is created by the advertisements, not by the labels, and the

newspapers lend themselves for profit to schemes which bear fraud and cruel injustice upon their very face.

It has been conclusively demonstrated in recent years that no such incongruously two-faced policy is necessary either to popularity or financial success. A few newspapers remain so venal that they continue to disregard all ethical considerations; but, happily, an increasingly large number refuse to longer stultify their editorial pages by printing indiscriminate corruption elsewhere. And these latter, almost without exception, are leaders both in influence and circulation in their respective communities.

Public sentiment is the only means available at the present time by which a general reform can be affected. The very life of a newspaper depends upon popular favor. Publisher and editor are alike jealous of the good opinion of their readers, though possibly from different motives, and quick to respond to expressions of disapproval. It is more than probable that if one out of every one hundred readers would take the time to call the editor's attention to the matter in a brief personal letter, a transformation would soon be effected.

Ethical principles are the same in the editorial office as in the counting-room. There is no semblance of justification for the prevalence of a double standard.

FEDERAL PURE FOOD LAW STRENGTHENED.

In the six years since the enactment of the National Pure Food and Drugs Law there have been many prosecutions for its violation, an unduly large proportion of which resulted in failure to convict. This seems to have been due principally to court rulings uniformly favorable to the defendants rather than to defect in the law itself.

The chief difficulty appears to have developed with reference to the interpretation of the statute on the subject of misbranding, particularly with reference to drugs. The contention of the government was that the language, "The term 'misbranded,' as used herein, shall apply to all drugs ---the package or label of which shall bear any statement, design, or device regarding such article, or the ingredients or substances contained therein, which shall be false or misleading in

any particular"—applied to false statements regarding the curative value of the article as well as to its ingredients. When a test case finally reached the Supreme Court, however, an adverse decision was rendered.

In order that the law should not be nullified with reference to one of its most important provisions, it became necessary to have it amended by act of Congress. A bill to that end, introduced by Congressman Sherley, of Kentucky, was passed at the last session and signed by the President. As amended, the law now provides that any drug or medicine shall be deemed misbranded "If its package or label shall bear or contain any statement, design, or device regarding the curative or therapeutic effect of such article, or any of the ingredients or substances contained therein, which is false and fraudulent."

It is scarcely possible that the meaning of this language can be misconstrued, and unscrupulous manufacturers will in future be deprived of one more means of deceiving and defrauding the public. For this blessing let us all give thanks.

ANOTHER MEDICAL MARTYR.

In the death of Dr. T. B. McClintic of the Public Health and Marine Hospital Service, which occurred in Washington, D. C., on Aug. 13, another name is added to the long list of heroes who have sacrificed their lives in the cause of Medical Science. Dr. McClintic went to Montana in the spring at the call of the state government to aid in the investigation and suppression of Rocky Mountain fever in which he was considered the greatest living authority. Contracting the disease himself, he at once started for Washington, but died within a few hours after his arrival.

Deaths like this are tragic beyond expression. Dr. McClintic was only thirty-nine years of age, and had been married less than a year. Already looked upon as a brilliant investigator, he gave promise of a most useful and distinguished career. But the same inscrutable fate which exacted the life of a Carels, a Reed, and a Lazear at the times when they seemed most necessary, had marked him for its own. To these men, as well as to the countless unlisted martyrs of our profession, the term "friend" embraced the

whole of humanity. And no more fitting epitaph could be found for them than the scriptural words:

*"Greater love hath no man
Than this that a man lay down
His life for his friends."*

NEWS ITEMS.

Dr. R. O. Tucker, of Nashville, is the subject of a suit for \$25,000 for alleged malpractice.

Dr. E. Michael Holder, of Memphis, has returned home after visiting friends in Nashville.

Dr. William Krauss, of Memphis, has returned home after a visit to friends in Nashville.

Dr. C. C. Howard, of Memphis, has returned from a two weeks' visit in Oklahoma City and other points.

Dr. L. T. Stem, of Chattanooga, was in Nashville recently with his mother-in-law, who is reported quite ill.

Dr. O. H. Wilson and family, of Nashville, have returned from a vacation of a few weeks spent in the North.

Dr. A. B. Williams and wife, of Memphis, have returned home after a visit to the Rustic Inn, Rogers Springs, Tenn.

We are pleased to report that Dr. W. E. Hibbett, City Health Officer for Nashville, has recovered from his recent illness.

Drs. D. R. Pickens and O. N. Bryan, of Nashville, have returned from Chicago, where they have been doing post-graduate work.

Dr. Mason Guill, of Gordonsburg, Tenn., is enjoying a much deserved vacation in New York City where he is visiting the hospitals.

The new \$50,000 addition to the Nashville City Hospital is rapidly nearing completion, and will be ready for occupancy during September.

Dr. R. H. Mitchell, of Memphis, is in Bay View, Mich., and is reported to be rapidly improving in health. He will soon return to Memphis and resume practice.

Dr. Scott Farmer, of Cookeville, is visiting the coast for his health, and will return via New York and other medical centers, where he will visit some of the hospitals.

The recent development of a few cases of smallpox in Sumner County met with efficient action on the part of the local Health Officer with prompt quarantine and vaccination of all exposed persons.

Dr. L. H. Pendergrast, of Memphis, is in Rochester, Minn., undergoing treatment. We are pleased to report that the doctor is rapidly improving and expects to return to Memphis about the first of October.

We are pleased to learn that the campaign for the erection of a charity hospital in Franklin, Tenn., being made by the doctors of that community, is meeting with success and gives promise of early consummation.

The American Association for the study and prevention of infant mortality will meet in Cleveland, Ohio, October 2 and 5. A magnificent programme has been arranged and the meeting promises much to those who attend.

We would especially urge the Secretaries of County Societies to send us the reports of their meetings and news items of interest. Send us anything, doctor, that you know, and remember it is your duty as secretary to give the JOURNAL your help.

Dr. Lucius P. Brown, State Pure Food and Drug Inspector, has announced that he is finding various grades of impure candy all over the state. The one most questionable being chocolate containing wormy and rotten almonds. These cases are being continuously brought before the Inspector, and he is using every effort to prevent the dealers from selling it.

Dr. Robt. Fagin, of Memphis, and Dr. W. W. Potter, of Knoxville, have been doing post-graduate work at the Algemines Krankenhaus, in Vienna.

The last issue of the JOURNAL numbered sixteen hundred, and this issue will go to seventeen hundred doctors in Tennessee. Can't we make it two thousand in another month or two? We are sure that it is not too high a mark, and with your assistance we shall do so. If you are acquainted with a doctor who is not a member of the State Association, can't you get him to join; or if not, can't you get him to subscribe for the JOURNAL? Now let's all pull together and make our publication an honor to our State Association and our profession.

The Fourth National Conservation Congress will be held in Indianapolis, Ind., October 1, 2, 3 and 4.

The conservation of the Nation's vitality will be discussed under the heading of Vital Resources, and the State Association is privileged to appoint five delegates.

The following members have been appointed to represent Tennessee: Dr. Wm. Krauss, Memphis; Dr. C. J. Broyles, Johnson City; Dr. H. P. Larimore, Chattanooga; Dr. Wm. Litterer, Nashville; Dr. O. W. Hill, Knoxville.

Members of the Association will please bear in mind that the life and continued success of the JOURNAL depends largely on their support. We feel no hesitancy in claiming that we are publishing one of the best state journals in America, and know that our readers will be more than pleased to learn that we are almost self-sustaining. Just a little interest on your part will be of the greatest possible assistance. When making purchases tell them that you saw their ad in the JOURNAL, and it will help us to hold *their* business. Advertisers, like others, demand results for their money.

The East Tennessee Medical Association will hold its next meeting at Johnson City, Tennessee, Thursday and Friday, October 10 and 11. This Association is already one of the best medical societies in the state and embraces in its territory thirty-four East Tennessee counties

with over eight hundred ethical doctors. The next meeting promises to be one of the best since its organization in 1890. All are invited to attend. The Secretary, Dr. H. P. Larimore, of Chattanooga, Tenn., will be glad to hear from you relative to an essay for the meeting.

MARRIAGES

The marriage of Dr. James R. Britton, of Memphis, to Miss Jappe Lucile Howse, of Nashville, took place at the home of the bride's parents, August 15.

COUNTY SOCIETY PROCEEDINGS.

CARROLL COUNTY.

The Carroll County Medical Society met in Huntingdon August 27th. The house was called to order by the President. The following members were present: Drs. W. M. Wright, Jno. F. Williams, A. M. Clark, A. I. Dennison, J. B. Cox, J. N. Gray, G. C. Bryant, and B. C. Dodds. A very interesting paper by Dr. R. L. Compton was read by the Secretary, and freely discussed. The following reported clinical cases: Drs. G. C. Bryant, Jno. F. Williams, J. B. Cox, W. M. Wright, A. I. Dennison, and J. N. Gray.

Much interest was made manifest throughout the meeting. Pellagra was selected for consideration at the next meeting, the discussion to be led by Drs. J. B. Cox, Jno. F. Williams, and B. C. Dodds.

Seven members have been enrolled since the July meeting.

Next meeting, September 24th, 1912.

B. C. DODDS, *Secretary*.

WASHINGTON COUNTY.

The Johnson City and Washington County Medical Society met in its regular monthly meeting with the Secretary and the following members present: Drs. Long, Randall, Cease, West, Cox, Kennedy, Matthews and H. Miller, with Dr. Sherrell (col.), as visitor.

Minutes of the previous meeting were read and approved. Dr. West reported a clinical case of "Eclampsia in a Primipara. One of the most peculiar features of this case was the severe gastric pains some time prior to the seizures, and the absence of the albuminuria at this time,

but which became prominent later in the case, fully seven per cent. At the time the convulsive seizures became very marked, prior to her confinement she was regularly under the observation of the doctor and was confined to her bed for some time before confinement. The aggravated symptom in this case was total blindness which was relieved after free elimination. She had one convulsion as the head was passing over the peritoneum and two severe seizures after delivery but eventually made a good recovery. Abundant casts and absence of urea were found in the urine of this patient. The doctor raised the question of the mother nursing the babe after such pronounced disturbances and held that by good authority it was not the proper procedure as quite a number of cases had been reported where the sudden death of the infant occurred after a full nursing and that it was probably due to the secretion of the poison in the milk. This case was thoroughly discussed by the membership body, and elicited a lively interest.

Dr. Cease, being the essayist of the evening, read a most interesting and instructive paper on "Abscess and Kindred Affections of the Antrum of Highmore." After an anatomical discussion of this region and sinuses, the doctor entered at length into the procedures by which this cavity was reached, mode of diagnosis, treatment, etc. He reported a very interesting case which recently came under his observation, the treatment and the good results which followed. The paper was well received and well delivered and discussed.

Dr. Dulaney, of Jonesboro, will be the essayist for October.

Dr. J. H. Jones, of Garbers, will be the alternate.
J. W. Cox, *Secretary*.

BOOKS RECEIVED.

ARTERIOSCLEROSIS, Etiology, Pathology, Diagnosis, Prognosis, Prophylaxis and Treatment, with a special chapter on blood pressure. By Louis M. Warfield, A.B., M.D., Assistant Superintendent and Resident Physician to Milwaukee County Hospital; Assistant Professor of Medicine, Wisconsin College of Physicians and Surgeons, Milwaukee, Wis., etc., with an introduction by W. S. Thayer, M.D., Professor of Clinical Medicine, Johns-Hopkins University. Illustrated with twenty-eight engravings. Price, \$2.50. C. V. Mosby Company, Publishers, St. Louis, Mo.

PHARMACOLOGY AND THERAPEUTICS FOR STUDENTS AND PRACTITIONERS OF MEDICINE. By Horatio C. Wood, Jr., M.D., Professor of Pharmacology and Therapeu-

tics in the Medico-Chirurgical College; Physician to the Medico-Chirurgical Hospital; Second Vice Chairman of the Committee of Revision of the U. S. Pharmacopœia. Price, \$4. J. B. Lippincott Company, Philadelphia, and London.

THE PITUITARY BODY AND ITS DISORDERS. Clinical states produced by disorders of the hypophysis Cerebri. By Harvey Cushing, M.D., Associate Professor of Surgery at the Johns-Hopkins University; Professor of Surgery (elect) of Harvard University. An Amplification of the Harvey Lecture for December, 1910. Price, \$4. J. B. Lippincott Company, Philadelphia and London.

A TEXT-BOOK OF PRACTICAL THERAPEUTICS. With especial reference to the application of remedial measures to disease and their employment upon a rational basis. By Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Fourteenth edition, thoroughly revised. Octavo, 984 pages, with 131 engravings, and 8 full-page colored plates. Cloth, \$4 net. Lea & Febiger, Philadelphia and New York, 1912.

THE PRACTICAL MEDICINE SERIES. VOLUME IV., GYNECOLOGY. Comprising ten volumes on the Year's Progress in Medicine and Surgery. Under the general editorial charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School; Charles L. Mix, A.M., M.D., Professor of Physical Diagnosis in the Northwestern University Medical College. Edited by E. C. Dudley, A.M., M.D., and C. von Bachele, M.S., M.D. Series 1912. Price, \$1.25. The Year Book Publishers, 180 Dearborn Avenue, Chicago.

INTERNATIONAL CLINICS. A quarterly of illustrated clinical lectures and especially prepared original articles on treatment, medicine, surgery, neurology, pediatrics, obstetrics, gynecology, orthopedics, pathology, dermatology, hygiene, and other topics of interest to students and practitioners. By leading members of the medical profession throughout the world. Edited by Henry W. Cattell, A.M., M.D., Philadelphia, with collaboration of Wm. Osler, M.D., Oxford; A. McPhedran, M.D., Toronto; Frank Billings, M.D., Chicago; Chas. H. Mayo, M.D., Rochester; Thos. H. Rotch, M.D. Boston; John G. Clark, M.D., Philadelphia; James J. Walsh, M.D., New York; J. W. Ballantyne, M.D., Edinburgh; John Harrold, M.D., London; Richard Kretz, M.D., Vienna. With regular correspondents in Montreal, London, Paris, Berlin, Vienna, Leipsic, Brussels, and Carlsbad. Volume II. Twenty-second series; 1912. Price, \$2. J. B. Lippincott & Co., Philadelphia and London.

A MANUAL OF CHEMISTRY. A Guide to Lectures and Laboratory Work for Beginners in Chemistry. A Text-book specially adapted for Students of Medicine, Pharmacy, and Dentistry. By W. Simon, Ph.D., M.D., Professor of Chemistry in the College of Physicians and Surgeons, Baltimore, and in the Baltimore College of Dental Surgery; Emeritus Professor in the Maryland College of Pharmacy; and Daniel Base, Ph.D., Professor of Chemistry in the University of Maryland. New (10th) edition, enlarged and thoroughly revised. Octavo, 774 pages, with 82 engravings and 9 colored plates, illustrating 64 of the most important chemical tests. Cloth, \$3 net. Lea & Febiger, Philadelphia and New York, 1912.

BOOKS REVIEWED.

LABORATORY METHODS, with special reference to the needs of the General Practitioner, by B. G. R. Williams, M.D., member of the Illinois State Medical Society, American Medical Association, etc., assisted by E. G. C. Williams, M.D., with an introduction by Victor C. Vaughan, M.D., LL.D. Illustrated with forty-three engravings. Price, \$2. C. V. Mosby Company, St. Louis, Mo.

In the prefatory note the authors state that many of the comparatively simple investigations that are usually sent to distant cities for expert examinations may be made with equally satisfactory results by the practitioner in his own laboratory. A careful selection of the needed laboratory equipment for these simple experiments is given.

The procedure of obtaining and examining the sputum, together with the difficulties, is clearly explained. The commonest culture media, together with the germs which grow thereon, are so simply stated that this knowledge is practicable to a practitioner of little experience along this line.

The analysis of the vascular system is too gross to obtain results that are of much value. The most thorough and important methods for urinalysis have been searched out and explanation is given whereby these results may be obtained without laboratory luxuries and by a physician who must do his work hurriedly. Some simple water analyses and everyday stool tests are given with their value and limitations.

In conclusion, stress is laid upon the necessity of being cautious in regard to "insignificant little germs" so as to become a safe operator in the laboratory. For the convenience of the reader all stains and reagents, as well as the more common poisons, are alphabetically arranged for ready reference. H.

PRACTICAL ELECTRO-THERAPEUTICS AND X-RAY THERAPY, with Chapters on Phototherapy, X-Ray in Eye Surgery, X-Ray in Dentistry, and Medico-Legal Aspect of the X-Ray. By J. M. Martin, M.D., Professor of Electro-Therapeutics and X-Ray Methods in the Medical Department of Baylor University, in the Medical Department of Southwestern University, and in the State Dental College, Dallas, Tex. Published by C. V. Mosby Company, St. Louis, Mo.

This book is especially to be recommended to the general practitioner for the reason that electricity in its varied application to disease, both as a means of diagnosis and of treatment, is rapidly becoming recognized for its true worth, and is being taken from the hands of the charlatan. It is essential, therefore, that we have a work free from technicalities and one which will be capable of thorough appreciation by the general profession. Dr. Martin has admirably accomplished this difficult task. It is so tempting to theorize on a subject so fascinating as electricity, as well as to be led astray in claiming the impossible for it, that it becomes a real pleasure to read a plain book, written in a practical manner for the average doctor.

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THE INJECTION TREATMENT OF HEMORRHOIDS.*

BY A. B. COOKE, M. D.,

Nashville.

A paper written in a spirit of criticism or condemnation may sometimes be as well justified and as useful as one written for the purpose of laudation. Whether justified and useful or not, since I have not before formally expressed myself upon this subject, I feel that I may claim indulgence even though the paper may be lacking in the merits of novelty and scientific value.

The treatment of hemorrhoids by injection is often referred to by foreign writers as the American method of treatment, a designation pleasing enough to its advocates, but containing little cause for gratification to those who condemn and reject it. There is no question that the method originated in the United States. Andrews, of Chicago, who investigated the early history of the method, states that it was first employed by a young physician named Mitchell, of Clinton, Illinois, in 1871. The fame of the method spread rapidly through that section of the country, and within a few years it was being used promiscuously by itinerant charlatans not all of whom were members of the medical profession and many of whom were ignorant and irresponsible. Exploited in this way, it soon gained a wide reputation and thousands of patients were treated by the new plan, the secret of which was closely guarded.

*Read by title at Chattanooga meeting State Medical Association, April, 1912.

The fact that for so many years the treatment of this class of diseases remained largely in the hands of charlatans, in America at least, is directly attributable to the remarkable exploitation of this method at a time when the subject had been receiving little attention at the hands of the regular profession. The present day interest in the treatment of hemorrhoids and in rectal diseases in general is probably due in no small measure to the ultimate realization by the profession that an important and profitable department of practice was passing from its hands.

For many years physicians regarded the secret method with outspoken contempt. With scarcely an exception, medical writers referred to it slightly or condemned it and its users in the most sweeping terms. And the same attitude is maintained to a certain extent today, with the result that the method is still being successfully exploited in all parts of the country by "No-Knife" advertisers, to the continued detriment and chagrin of the self-respecting profession.

There is in reality neither reason nor excuse for the existence of such a state of affairs. The method is not and has not for many years been a secret. The profession should consider without prejudice whatever merits it may possess and so be in position to advise the public intelligently upon the subject.

Practically all of the more recent American text-books upon diseases of the rectum devote considerable space to discussion of the method, with varying conclusions as to its efficacy and value. None of them condemns it as utterly worthless; but all agree that its field of application is a very limited one and that the details of technic must be thoroughly mastered to insure a proper degree of freedom from danger in its use.

Carbolic acid is known to have been the active ingredient of the original formula as used by Mitchell. Many different drugs and combinations of drugs have since been experimented with, but the carbolic acid retains its reputation as the most efficient agent for the purpose. The strength employed has varied from five to ninety-five per cent. At the present time a twenty-five or thirty-three and a third per cent solution is most generally employed.

The following are a few of the formulas for the injection fluid which have been most strongly recommended:

- R Ac. Carbolic oz. i.
Zinci Chloride Gr. viii.
Ol. Olivae oz. v.

This was the wonderful remedy of the celebrated Brinkerhoff.

- R Ac. Carbolic.
Glycerine.
Aquae Dest. aa oz. i.—Gant.

- R Ac. Carbolic.
Ext. Ergotae Fl. Equal Parts.
—Overall.

- R Ac. Carbolic (cryst) oz. i.
Aqua Dest. dr. ii.
Sod. Biborat et
Plumbi glyc. dr. vi.—Agnew.

- R Ac. Carbolic (Calvert's) dr. ii.
Ac. Salicylic dr. ss.
Sod. Biborat dr. i.
Glycerine q. s. ad oz. i.—Tuttle.

From five to twenty minims of the solution to be used are injected into the body of the pile tumor by means of a hypodermic syringe. The amount to be injected varies with the size of the tumor, and the strength of the solution is determined by the effect it is desired to produce.

Two radically different conceptions of what is sought to be accomplished by the injection method of treatment are defended by their advocates. One is that the object is to cause necrosis and sloughing of the tumors. This view is vigorously championed by Agnew of San Francisco, who maintains that a radical cure may be safely ef-

fected in this way. The great majority of those who employ the method, however, claim that such a result is always to be avoided, holding that the remedy injected is only intended to cause obliteration of the blood vessels with resulting atrophy of the tumor, and that when sloughing follows it is to be regarded as an unfortunate accident. Those who entertain the former view use the stronger solutions and larger quantities, while the advocates of the latter view use the weaker solutions and are more guarded as to the amount injected.

It is clear that the last mentioned view stands for safety and conservatism. The most casual reflection would seem sufficient to settle the question. The sloughing process is not more susceptible of control in this region than elsewhere, nor are the dangers of hemorrhage, sepsis, and vicious cicatrization less to be regarded. These are the identical dangers from which we strive to protect a patient when his hemorrhoids become prolapsed and strangulated and nature is threatening to undertake a cure by the process of gangrenous ulceration.

The technic of the method is simple. As a rule only one tumor at a time should be treated, though when they are of small size and remain above the grasp of the sphincter, two or even three may be injected at the same sitting. While an ordinary hypodermic syringe will serve the purpose, one of larger size and provided with a goose-neck extension piece will be found more convenient.

The bowel should be evacuated and irrigated before each treatment and the parts scrupulously cleansed at the time of the injection. The needle is inserted well into the substance of the tumor selected for treatment, and from five to twenty minims of the carbolic acid solution slowly injected. The needle is left in place for a few minutes in order that the remedy may have time to act upon the tissues, and the surrounding parts be protected from any fluid which may chance to escape upon its withdrawal. If prolapsed, the tumors should be at once replaced. When necessary to use an instrument to expose the tumors, a conical speculum with a sliding window will prove most satisfactory, the instrument being rotated or re-introduced until a tumor presents through the opening. A simple dressing of sterilized petrolatum or other bland ungent is

applied on a compress of sterile gauze and held in place by means of a light pad and T bandage.

The treatment usually causes little or no pain, but when administered in the office, the patient should be kept in the recumbent position for an hour, after which, if comfortable, he may return home. It is sometimes possible for a patient to resume his ordinary duties at once following a treatment. The results are better, however, when prudence is observed in this respect. If good judgment is exercised as to the amount of solution injected, a tumor rarely requires more than one treatment. After an interval of from two to five days, depending upon the degree of reaction, another tumor is treated, and so on until all have received attention. Of course, an external hemorrhoid should under no circumstances be injected.

It is of special importance that the needle be inserted to the proper depth before any part of the injection fluid is allowed to escape. If deposited too near the mucous covering, ulceration and sloughing are apt to follow. On the other hand, if the needle is carried too deeply, the gut wall will be invaded and acute inflammation, abscess formation and perhaps general sepsis, are likely to ensue. It is highly probable that many of the long list of accidents and disastrous sequelae which have resulted from this method of treatment were due to faulty technic in one or the other of these respects rather than to error of judgment in the solution employed.

Now, what of the merits of the method? It seems impossible than any plan or system of treatment should have flourished for forty years in a civilized country without possessing some claim to recognition. That it offers a means of handling some patients who will not consent to the radical operation and of affording at least temporary relief in the great majority of cases in which it is properly used, can not be gainsaid. But the only standards by which the value of a surgical procedure may be justly determined are safety in execution, and certainty and permanence of cure. Judged by these standards the injection method of treating hemorrhoids has absolutely nothing to commend it.

Andrews collected more than three thousand of the early cases treated by this method, which showed a mortality of about four-tenths of one per cent and, as compared with other methods,

a significantly large proportion of accidents and unfortunate end-results, including embolism and abscess of the liver, dangerous hemorrhage, stricture of the rectum, sloughing (one per cent), violent pain (two and a half per cent), etc. Failure to cure was noted in nineteen instances; but the number of cases in which recurrences occurred was not stated for the obvious reason that data on this point was not available at the time the statistics were compiled.

The writer's personal observation embraces two cases in which death was directly traceable to the injection of hemorrhoids; one, that of a young lady in which extensive sloughing involving the buttocks and perineal region occurred, the other, that of a strong, healthy man in which the fatal issue followed the formation of a large pelvic abscess and general sepsis. In addition the writer has been called upon, not once or twice, but repeatedly, to perform the radical operation upon patients who had had their piles injected ten to fifteen years previously and who had for a time fancied themselves cured. The last instance of the kind now referred to was operated upon within three weeks of the time at which these words were written.

When contrasted with any one of the recognized radical operations, the injection method of treatment falls short on every count. For example: Allingham has recorded over four thousand operations by the ligature method, with only five deaths, a mortality of slightly more than one-tenth of one per cent or only one-fourth as great as that resulting in Andrews' three thousand cases treated by injection; Mathews and Straus have each reported series of one thousand consecutive operations by the ligature with no mortality; in approximately one thousand operations by various methods the writer has had only one death, the patient in this case being already profoundly septic from a neglected gangrenous condition of his strangulated piles at the time the ligature operation was performed. In no other instance of the entire series was life even seriously endangered.

In this connection Kelsey, after enumerating the several dangers of the injection method as shown by his personal experience, and stating with emphasis that it does not result in a radical cure, says: "...and all the patient actually gains in the most favorable case is the avoidance

of a safe operation which he fears, while he submits to an uncertain one which he does not fear because of his ignorance, together with a few days of liberty during which he would be better off in his room." On the other hand, Tuttle graphically says: "Whatever else may be said against the ligature operation, two things stand out in bold relief: *it is slightly if at all dangerous to life, and it absolutely cures the disease.*"

Since the perfecting of the technic of local anesthesia in anorectal surgery it is possible to perform the radical operation for internal hemorrhoids painlessly and with less experience than is required for the successful management of the injection treatment. Thus, eliminating from consideration the question of general anesthesia, it would seem that the injection method has no sound basis of merit or advantage to justify its employment at the present day. In fact, after viewing the matter impartially from every standpoint, the conclusion seems warranted that the method is an unscientific and unsurgical makeshift which has been too long exploited at the expense of a credulous public; that it is not without danger in any case and permits no honest assurance to a patient of permanency of cure should real danger be escaped. If the treatment is undertaken after a full explanation on all points, the responsibility may in a certain restricted sense be shifted to the patient. But while he may possibly soothe his conscience in this way, the surgeon certainly does not uphold the highest ideals of his profession.

HERNIA.*

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There is already so much literature upon the subject of Hernia that any man who adds to it should have good reason for doing so. The excuse that I give for presenting a paper on this time-worn subject is, that after all that has been

said and done in regard to this oft met with condition, few there be, that take advantage of this one of the best understood problems and one of as perfect technique as we have in modern surgery. In looking over the list of operations done in our hospitals today one is struck with the small number of herniotomies of any and all kinds, that are enumerated during a whole year of work done by one or all surgeons. At one of our local hospitals about 50 operations for some kind of hernia were done in the past 12 months, and out of this number 33 per cent were for complications such as strangulations, incarcerations etc., where it just had to be done, the surgeon nor patient, could not get around it.

Hernia is certainly not a rare condition or new field for investigation. It is an open book known and read by all men. Only a few years ago "Bassini" was heard upon the lips of almost every surgeon, even among the amateurs, and much was written and much discussion was heard about every detail of a "Bassini": surely they have not all been operated on but perhaps the "hereditary transmission" of this anatomical defect has been overcome in some other mysterious way. Modern statistics tell us that one man in ten has one form or another of hernia, surely it cannot be looked upon in the light of an insignificant affection for it is not only a daily menace to the life of the patient, but is attended with an unlimited train of symptoms, complications and conditions that render the patient almost a nuisance to themselves. Why this desuetude in regard to this condition and relegating to the rear this, one of the most important surgical conditions?

Aside from the danger, and it is great, the intestinal disturbances, the physical distress, the constant fear of some accident to the part, and the disgust that all patients must have that realize they have a condition they must carry through life, is something of deep and vital concern to every patient. A child or adult suffering from hernia without palliative assistance is physically defective and more or less a cripple. In the child physical activity is interfered with, and mental and physical development thereby impaired. In both child and adult the malady, if untreated, grows progressively worse, earning power is interfered with, self-respect diminishes and the patient becomes more or less a depend-

*Read before Tennessee Medical Association, Chattanooga, April, 1912.

ent, and in the latter years of life may become a public charge. Perhaps today the patients have never heard that they can be cured by a comparatively simple operation, almost practically free from danger and distress. All the patient knows is the fact that he has the rupture and that some of his relatives and friends had it till they slept with their fathers and in his present knowledge he thinks he has to do the same; his information as regards operations is limited to some one who was forced to have an operation for the relief of a strangulated condition and it was then done at the last moment after all manner of jugglery and taxis, as we were taught to call it, had been used, which was nothing short in many instances of brute force or misdirected or misapplied manipulation under the cloak of surgical skill and technique. They are entitled to, and should have, the counsel and advice of some one who is conversant with what should be done for his benefit and relief.

What is more deplorable than anything else, they are doomed and yoked to an abdominal truss that they are compelled to wear all the remaining days of their lives. Can we imagine anything worse or more disagreeable than the wearing of a truss that soon becomes as dirty and filthy as it is uncomfortable and unsightly? If we have an unsightly blemish where it can be seen, though it is harmless and will never give any symptoms of distress we have it removed. If we had to appear in public wearing a truss, no matter how artistic or ever so stylishly made we would all be hermits or appear only in the night, and yet it is estimated that nearly a million trusses a year are manufactured for use in this country.

Many a man comes out a daily "fashion plate" in dress and appearance, with daily bath and clean linen one of the many things that stamp him the highest type of civilization, yet with all this, underneath he buckles on an old truss that would disgrace any dumping-ground and shock the aesthetic taste of any member of the city scavenger department. One fresh from the hands of the manufacturer shown to one who had never seen a truss before, should you tell him it was new musical instrument or some new attachment to an automobile, he would feel squeamish about the stomach and very much as though he wanted to give up his dinner or get a breath of fresh air. No social circle has

ever been so low or depraved where it could be discussed with any interest to any member present. No life insurance company will take a man who does not agree to wear one if he is ruptured or becomes so as long as the policy is in force.

It is a bar to enlistment in the army or navy of the United States and the surgeon general reports 240 operations done in 1909 on the soldiers for the cure of this condition that developed after their enlistment.

You take the attitude of the surgical world today upon the subject of appendicitis, gall bladder infection, stomach disorders and female diseases they have been pursued with keen observation and discriminating acumen and every one who would stand still long enough has been the recipient of an operation both for his real as well as imaginary troubles, appendectomies, oophorectomies, all the cholecystotomies and cystectomies, gastrectomies, gastrostomies and gastro-enterostomies in their respective epochs held full sway in the center of the lime-light and many surgeons with skillful artistic hands climbed to the very pinnacle of fame in perfecting the technique that is little short of marvelous.

The scene has shifted recently and the thyroid gland with its mysterious internal secretion that is looked upon as the etiological factor in many of our heretofore unexplained pathological problems is now receiving the full charge of the army of surgeons, and no patient is now thoroughly examined today without noting carefully the presence or absence of exophthalmos, tremor or tachycardia. New fields are being sought after and our investigators are forging ahead and the impossible today is become a demonstrated fact tomorrow. But here is a field that is linked with the yesterdays of our science. Its problems all solved and worked out and this condition should not be overlooked in our mad rush for the new, just because it is old and well understood.

Surely this malady with all its attendant evils is not matter of choice upon the part of the patient: Then what is the matter? All these other conditions I have enumerated that are amenable to surgical relief are quickly seized upon by the unfortunate sufferer and disappointment rarely falls to his lot. Here is a condition that is widespread in its distribution and frequently met with

by every member of the medical fraternity: its etiology, symptomology, diagnosis, complications, dangers and prospects of relief are well-known by the most benighted in the profession, no one for a moment is in doubt about the treatment, for all are agreed that it is a purely surgical condition one of the demonstrated successes of surgery and yet many thousands are struggling through life with this great handicap.

The picture is not overdrawn and the only reason a man with hernia is content to go through life with it, is due to the fact, that he cannot realize how good it is to feel like you or I who have not this physical defect to contend with, or he has forgotten how a man feels as he stands upright stripped of all defects with the harness off.

To show you how eager the patients are, as far back as surgical history leads us, operations were done for the cure of reducible hernia and these chiefly by itinerant quacks, some of them so far deceived the people as to drive a prosperous trade. They submitted to painful applications, irritating injections and even hazardous operations to obtain a cure. Today in so far as the degree of danger or the hazard of the operation we can assure them that it is less than what they are threatened with daily. The pain and discomfort and distress of the operation is practically nil, the greatest being the detention in bed for ten days or more and in from 94 to 98 of the cases we can absolutely promise them a certain cure.

When they consult a medical man on account of hernia the chances are that he will be sent to a drug-store for a truss or maybe to an instrument maker to be fitted with a more complicated and elaborate apparatus, and the trusting patient in this way accepts this measly excuse of a treatment, believing that out of the resourceful womb of science he has received his full portion of his rich inheritance.

Operate on all of them? No, the contraindications are clear cut and unmistakable. We know as a fact, that the extremes of age, both young and old are poor surgical risks. The flattering statistics given out by the "Hospital for the Ruptured and Crippled" in New York, where the truss is used as a routine treatment on all patients under four years of age, claims 90 per cent of cures, this is enough to put a ban

on all cases of this class unless some complication renders it imperative. As a rule, these early hernias give very little trouble up to the fourth year, and it is the accepted practice to give these mechanical appliances a fair trial in these cases.

From four to fifty years of age operations should be advised in all cases provided no serious general condition contraindicates any operative procedure. Beyond this age these general conditions have a more serious bearing. We would in all cases advise against the radical cure in patients between fifty and seventy years of age, if we have any reason to believe that the taking of an anesthetic would be attended with any unusual amount of risk, and it is by no means true that the shock occurring during operations under a local anesthetic can be ignored. Beyond this the time of expectancy is too short and the risk too great for any kind but imperative surgery, although I have operated upon two, 78 and 79 years old respectively, both for strangulated hernia and both were permanently cured. Barring these with but few other possible exceptions all the rest are eligible to the class for the radical operation, and should be insisted upon as a conservative justifiable measure.

Permit me to refer briefly to a few, and there are only a few, debatable questions in regard to the operation itself, first is the anesthetic. The most serious objection and the one most difficult to overcome with the patient is the taking of a general anesthetic. Be it chloroform, ether, nitrous oxide or ethyl chloride it is all the same, they object to any and all of them. The patient thinks it is a horrible experience, and in the hands of an amateur anesthetist, or any one who has not had a great deal of experience in giving an anesthetic, it is. I think the day has passed when this important part of any operation should be done by just any one. It is one of the most important steps in the operation under consideration.

Given correctly means a very careful administration under the most favorable surroundings after the most thorough preparation with a minimum amount. Given in this way it is not as many suppose a very unpleasant experience, and seldom if ever is attended with any of the unpleasant after-effects that is sometimes met with

when getting over a general anesthetic, such as marked depression of all the body functions, with nausea, vomiting, irritation of throat, lungs, kidneys, etc. Unless marked contraindications against a general anesthetic are present, and these are few indeed. I prefer it to a local anesthetic, you have a better command of the situation and I think a much better operation can be done when the surgeon's attention is not divided between the anesthetic and the operation, he does not have to hurry over some important detail and finishes every step of the operation with the hands of a master.

But it can be done under local anesthesia, using only a minimum amount of cocaine it is no exaggeration to say the operation can be performed without pain to the patient, his greatest discomfort being the thought of being operated upon, but it is not an easy or simple thing to do as some have been led to believe, and when done by an amateur will only result in a failure. If you have been clinically instructed by an expert you may hope to do the operation, but you will do many with varying degrees of success or failure before you feel sure of your ground, always have your general anesthetic ready, for until you become an expert you need it often.

The choice of the operation is the next consideration. Of course an absolute surgically clean field of the site for operation is a *sine qua non* to perfect success. In fact cleanliness should be observed to an even greater degree than is usual in an operation in the abdominal cavity. Unfortunately a great many of the hernias are so located about the body that the skin is very unclean from a bacteriological standpoint and difficult to sterilize. Thoroughness here means success or failure.

What operation should be done? Many operations for the cure of hernias have been devised and all are attended with a large percentage of cures. Furgerson in his text-book on the operative treatment of hernia describes under the name of various men forty-three different operations for hernia and all of them only modifications of the original Bassini method. The principles of the Bassini method are easily understood and simple of performance, and has for its prime object the removal of the sac and the reconstruction and strengthening of the canal on an anatomical basis. As to whether you

transplant the cord as in a Bassini operation or leave it in its bed after the Furgerson method seems to change the percentage of cures very little if any at all. Coley reports only five-tenths of one per cent of failure in 1,185 cases operated on by Bassini's method, and equally as good results have been obtained with the other methods by other surgeons. Any method you adopt and do it well rarely if ever disappoints. To Bull and Coley belongs the credit of popularizing the Bassini operation in this country, and it is the one that is employed by perhaps the largest number of surgeons today.

The disposal of the sac has been another point of great difference of opinion, but it is agreed by all that in dealing with hernia the obliteration of the sac must always be insisted upon as the one all important step in the success of the operation. Indeed some go as far as to maintain that if this is successfully accomplished all reconstructive procedures, all reinforcing of the abdominal wall and narrowing of the rings by special sutures are unnecessary as the bowel will not come down where there is no sac to receive it. In infants it is claimed that excision of the sac alone is all that is necessary to effect a cure. This is perhaps true in the great majority of hernias except in post-operative hernias.

In the Bassini and Furgerson operation the sac is stripped from the cord and freed high up around the neck, then drawn down transfixed, ligated and cut away allowing it to drop back into the cavity. McEwen instead of cutting away the distal end of the sac transfixes it with sutures at its end then by passing the suture back and forth up to its neck in such a way that when drawn upon puckers it up on itself and it draws back into the cavity, where it forms a thick pad closing the opening in the sac flush with the parietal wall. Kocher in an ingenious way reinvaginate the sac within itself and draws it out through the muscles at the upper end of the ring. The object to be obtained is the same; perfect obliteration of the sac, leaving no funicular process of weakened resistance to invite a recurrence. No one yet has been able to demonstrate his method exclusively to all others. But certain it is that whichever method you adopt should be faultlessly followed in its most minute detail and the object to be accomplished, i. e. the complete obliteration of the sac will be

the ultimate result. When it comes to the selection of suture material we fortunately strike common ground where we all can agree. The selection of the proper suture material for the tying off of the sac and the reconstruction of the canal is a very important element in the perfect technique for the radical cure of hernia. The masters upon art as well as the surgeons that follow their teaching have so frequently noted the disadvantage and disappointment in results from the use of non-absorbable sutures that it is almost unnecessary to more than refer to the matter here. It is a well-known fact that any kind of non-absorbable suture, in a certain number of cases cause, slowly healing sinuses which greatly enhance the chances of a relapse. The ideal sutures should be aseptic, supple, strong and absorbable. Catgut to say the least is easy to secure and fills all the requirements when it is properly prepared, perhaps there have been a few cases where the wound was contaminated by the gut, but the fault really was due to our imperfect aseptic technique and should not have been charged to our suture material. The art of suturing wounds never reached its zenith until catgut was perfected and today the surgeon has at his command a material that is not only strong, flexible, available in different sizes but one that can be rendered absolutely aseptic, and one that the tissues will dispose of in least time leaving no trace of itself behind. With all this true there is no reason for any longer continuing the use of non-absorbable material for sutures in all hernia operations.

The buried suture should not be larger than a No. 2 catgut and should be chromicized so that it will last for 20 days in the tissues. If too large a strand is used, it is much harder to sterilize and requires too long a time for absorption.

When it comes to the closure of the wound each variety of hernia has some different method of closure due to the difference in the anatomical structure and tissues that are available to lessen the size of the opening. But the mechanical principle here is the same in all hernias, i. e. bringing together in the opening and canal elastic muscular tissue and the strong fascias that will either furnish adequate support to the contents of the cavity or deflect the line

of pressure in a way that the canal will not be reopened.

One of the important points in the technique here is to recognize and separate the different tissues and structures as we go in, isolating each separate one as each has its special part to play in restoring the canal to its normal condition. A mistake in our dissection or failure to preserve intact some muscular tissue or fascia always means a faulty closure and an imperfect operation.

Here is one instance in surgery where it takes the skill of the artist to go in and after this, most any one can finish the operation when the dissection is done skillfully, whereas, a bungling dissection with failure to recognize and deal properly with each structure as it is met with renders it impossible to do the latter part of the operation with any degree of satisfaction. An effort should be made to approximate as wide and as thick surfaces as possible in our closure and they should come together with the least amount of tension. The old surgical axiom of Daw "that an unwilling union in surgery is like it is in matrimony, liable to be followed by a separation" is very apt and fitting in this special condition under consideration.

Our recent investigators with this point in view are advocating, plicating or overlapping of the structures so as to furnish not only a broad contact but increased circulation and nutrition to the part, often the judgment of the operator will suggest in the individual case a departure from the old stereotyped way of closing, so that the most successful will be the one who can fit the operation to the man, instead of the man to the operation.

The after treatment does not differ here from any abdominal section, vomiting should be controlled as far as possible as it certainly plays an important part in the success of the operation or in the failure, and we should remember that we are not performing any miracle, our line of union is very tender and weak requiring several days to become organized tissue that is strong enough to support the normal tension or pressure of the part, and after the surgeon has corrected the defect time alone can make it secure. Two weeks in bed and two weeks more before resuming active exercise should be the rule rather

than the exception and fewer relapses would be had.

I have purposely avoided advocating any man's special hernia operation, only touching upon some of the important principles involved in its cure and disclaim any attempt to bring anything new that would be an improvement over the old. My sole object is to call attention to a condition frequently met with and for some reason is not done as often as it should be. It only requires to be understood by the one with an hernia and his physician is the one to acquaint him with these facts, that he has a defect that can only be remedied by an operation, that the cure is certain, in 95 or 98 per cent of the cases, that the mortality is less than 5 per cent, the danger being much less than they are daily exposed to from the hernia itself and the distress and discomfort of the operation practically nil. This being true the operation should be advised in all cases of hernia unless there are special contraindications to any kind of surgical procedure.

DISCUSSION.

ON THE PAPER OF DR. COWDEN.

DR. PAUL DEWITT, Nashville: I have enjoyed Dr. Cowden's paper very much.

The subject of hernia is one that has interested me very much, and I have thought a good deal about it. Dr. Cowden has referred especially to the necessity for operative procedure in the cure of hernia. I agree with him most thoroughly in that proposition. It has been estimated that hernia reduces a man's capacity twenty-five per cent. In other words, a man with a hernia can do only three-fourths the work of a man who has not a hernia. To put it in another way, seventy-five sound men are worth one hundred men with herniae. That is a great economic proposition in itself. The radical cure of all these herniae would increase man's earning capacity and his usefulness.

As regards the question of the effects of the hernia itself upon the patient, I believe we have a good many nervous symptoms coming from the wearing of a truss. I have a little fellow, twelve years of age, who has an inguinal hernia, and also a ventral hernia following an operation for the removal of a suppurating appendix, and he is extremely nervous. He was in bad health, and I have deferred operation until the prospect is brighter. I expect to operate on him in a few days. I believe that the cure of those two conditions will relieve, in large measure, his nervous symptoms. I do not expect the operation to cure him entirely of the nervousness, but I want to get rid of these sources of irritation.

As regards the method of operation, personally I

like the Ferguson, or so-called anatomic operation, which leaves the cord in its natural bed. I agree with Dr. Cowden that the complete obliteration of the sac is one of the most important, if not the most important, steps in the whole operation. I do not know that the McEwen infolding procedure is necessary, but to free the sac within the internal ring, so that there are no adhesions around it, draw it down to a certain extent, ligate it, and in that manner obliteration of the sac is a very important part of the operation. Some men think simple obliteration of the sac is all that is necessary. If we regard this as a very important part of the procedure, why not let us add to the important steps. Let us remove the sac entirely, and take all the necessary and available means for permanently closing the opening. I believe that Colley's stitch outside the internal ring is a mighty good stitch. In other words, he prevents splitting of the fibers above the ring, and preventing splitting above and suturing properly below by the layer method, as suggested, we form a strong canal wall.

Another thing in connection with herniae, where a man has a varicocele, whether it is pronounced in the scrotum or not, we often find a great many large veins which should be excised.

DR. E. T. NEWELL, Chattanooga: There is one point I wish to speak of, and that is the suture material. I did one of these operations with chromic catgut, and six weeks afterwards it came out. There was no infection. The gut was irritated, and the catgut came out through a little sinus, from which there exuded a little serum. Since then I have been using No. 1 and No. 0 chromic double, and it is stronger than larger catgut when it is doubled and much safer. I have had a similar experience with catgut No. 2 in a goiter operation. There was no infection, but two months later it came out. It was tied perfectly. No. 2 twenty-day catgut will stay in the tissues for two months and come out almost as perfectly as when it was put in. That is a point we ought to watch carefully in using small catgut, use it double, and not use it in single strands. Chromic catgut is not absorbed as quickly as the manufacturer thinks it is, especially in sewing up tendons. When it is placed in peritoneum, it is quickly absorbed. When you are sewing tendon or muscle tissue, it will stay much longer than you think it will.

DR. JERE L. CROOK, Jackson: The subject of hernia has interested me for several reasons. Disabilities from its existence are prevalent, and the time of operation can be selected for its radical cure, except in the cases where strangulation exists, and there is practically no excuse for not securing asepsis in the performance of the operation. We should strive to educate the public regarding the necessity of the operation and the possibility of its cure.

Every man who wears a truss is a potential factor in mortality statistics. If we could impress upon the people whom we meet in everyday practice, who wear trusses, the fact they have this disability which Dr. DeWitt has referred to, that only three-fourths are

able to do the ordinary work of life, and that they have a disability or condition which, at any time, may cause death, and use the force of our personality in making statements to patients, and not tell them they can do very well with a truss, we will do more of these operations. We can amplify our field of usefulness to these patients preparing ourselves better along this line of surgery, feeling we are not only doing these patients a vast service, but giving ourselves something to do. There is no reason why the medical profession should not undertake to educate the thousands and thousands of people in this country who are wearing trusses.

The doctor's picture of the unsanitary condition of the truss was beautifully drawn. We ourselves individually should take it upon ourselves to do a little work along these lines, and if we did, there would be fewer people who would have this twenty-five per cent disability, and there would be a great increase in the number of successful operations performed to the credit of modern aseptic technic.

In regard to the technic, where a man has worn a truss for a long time, as in a case I saw a short time ago of a man forty-four years of age, there is such a weakness and thinning of the lower abdominal wall that I had to use a large part of the rectus muscle in reinforcing the covering of the abdomen, and got a beautiful result. The use of the rectus muscle aids materially in strengthening the abdominal wound.

DR. RICHARD A. BARR, Nashville: The increased incidence of inguinal hernia following operation for the removal of the appendix has been noticed. There is a decided increase in the tendency to the development of inguinal hernia following the use of the McBurney incision, so I think we ought to bear that point in mind. I do not use that incision, preferring for most of my cases the Kammerer incision, and the above-stated fact is another argument against the McBurney incision in doing appendectomy. I think we have a right to protest against the use of the term anatomic incision or operation as a synonym for the Ferguson technic. Dr. DeWitt said it left the spermatic cord in its natural bed. I think not. The spermatic cord is supposed to run along the inner half of Poupart's ligament just behind the aponeurosis of the external oblique muscle. In the Ferguson operation the attachment of the internal oblique and transversalis muscles to Poupart's ligament is increased inward toward the pubic bone, and while normally these muscles come from the outer half and outer one-third of Poupart's ligament, in the Ferguson operation the attachment is increased to practically the whole length of Poupart's ligament and the cord, after the operation, comes direct through the belly wall in line with the external ring instead of following along behind the aponeurosis of the external oblique as far as the middle of Poupart's ligament. That is not an anatomic condition. It has one serious drawback in that, the cord is surrounded entirely by aponeurotic structure and bone. You have made an internal ring, you might say, of the conjoined tendon and Poupart's ligament.

It is comparatively easy, unless one is careful, to constrict the cord, and with a large swollen cord, as you sometimes find, there is a possibility of getting too much interference with the blood supply of the testicle, with possible atrophy. It certainly results in great discomfort. I believe the old Bassini is just as anatomic, the cord being left nearer in its normal position. I believe it is a most satisfactory operation. It is generally conceded that it is by far the safest method where you have a sliding hernia without the development of a hernial sac. The cecum may slide down and you have the presence of a hernia without peritoneum in front of it. The urinary bladder may do the same. Recently I had a case of hernia of the urinary bladder, in which there was no peritoneum in connection with the hernia except a little pocket on the outside. In a sliding hernia the Ferguson technic should not be used, because you can come nearer protecting the part against a protrusion at the inner end of the wound by the Bassini technic.

So far as obliteration of the sac is concerned, we do not obliterate the sac in the average case when it is left behind. Only the neck of the sac is obliterated. So far as the cure of the hernia is concerned, if the neck is obliterated, you have as satisfactory a condition as by the removal of the sac. There are two disadvantages about leaving the sac. Unless you cut across the neck of the sac, when it is left in place, it has a tendency to pull on the peritoneum and make a dimple at the site of the internal ring. Another disadvantage is that unless you split the sac and turn it wrong side out, you may have developed a hydrocele in the sac you leave behind.

DR. COWDEN (*closing*): In regard to the sac, there is perhaps in every instance a small dimple on the inside. To overcome that dimple on the inside of the peritoneum, McEwen's operation was to overcome this by increasing the boss, as it were, on the inside; it makes no difference whether you have a small funicular process or infold of pad and make a boss that juts out into the peritoneal cavity. It is only a short time when nature smooths it all down, and instead of there being a boss it is smooth. It does not make any difference what method you employ. The obliteration of the sac is the one thing we want to accomplish.

RECENT ADVANCES IN BONE SURGERY.*

BY EDWARD T. NEWELL, M. D.,

Chattanooga.

In presenting a paper to any medical body, and especially one such as the Tennessee State Medical Association, I am always imbued with

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the idea of presenting something new and of interest. While some of you are quite familiar with the rapid strides made in recent years in bone surgery, I feel quite sure that the new, and practical and wonderful operations that are now being performed on bones and joints are not familiar to all.

I shall not endeavor to cover so wide a subject in detail, as "Bone Surgery," but will limit myself to generalities on the subject, laying particular stress on the surgical procedures of ununited fractures of long bones and ankylosed joints. These two important conditions, until very recent years, were usually considered beyond the domain of operative success. Looking over the surgery of bones for the past fifteen or twenty years, you will find in such works as Da Costas' Surgery, 1895; American Text Book of Surgery, 1897; Von Bergman's System of Surgery, 1905; Keen's System of Surgery, 1907; Lexer-Bevan's System of Surgery, 1908; Binnie's Operative Surgery, 1911; and J. B. Murphy's Clinics, 1912; the following ideas and statements:

They portray the development of the infant to adolescence, and you may say to maturity; for John B. Murphy's work along these lines seems to be absolutely complete. You may say the last word has been spoken when you read and see his wonderful, marvelous and ingenious methods as applied to bone surgery.

The American Text Book of Surgery, 1897, edition, in discussing the proper procedure in cases of injury to one of the two bones in the fore-arm or leg, where a considerable portion of one bone has been destroyed, recommended the removal of a piece of the other bone of equal length. By this procedure you will get a useful and serviceable extremity, but one deformed by undue shortening. In this same connection, the American Text Book of Surgery, states that bone grafting of the future promises something towards filling up the gaps caused by such a condition. Again, the same edition suggests such repair of bones by bone chips, or by a piece of bone from a freshly amputated limb, or by using bone of some animal; but concludes by saying that success rarely follows. This dream or prognostication of fifteen years ago is now a reality. The work was first done with bone chips, then bone from animals was used, then

bone from freshly amputated limbs, and now it is usually done by transplanting a piece of bone from some of the other large bones in the same individual. It has been found that the fresh bone from the same species grows (takes root, so to speak) more readily and rapidly than animal bone, or bone prepared from a cadaver. This is explained by the small vessels (arteries, arterioles and venules) in the periosteum finding more suitable canaliculi in the fresh human bone than in that from animals, etc. After all, it is the periosteum with its blood supply that takes on the transplanted bone and gives to it life.

Da Costa in his edition on surgery, 1895, says in the discussion of fracture of the neck of the femur in old people, or in the debilitated, "make no attempt to get union." In any fair subject of today, who is less than sixty years of age, we would do the patient an injustice in these intra-capsular fractures, did we not try to get union. A plaster cast of the entire extremity up to the eighth rib, and of the unaffected leg down to the knee with sand bags and extension, will produce, in many cases a happy result. Personally, I can recall several cases in which this proved efficacious. In case this fails, you still have the opportunity of the open operation. I refer to cutting down on the fracture, wiring or nailing or applying screws to the broken and separated bones.

Von-Bergman's System of Surgery, 1905, chronicles the beginning of the great advance in bone surgery. He reports successful transplantation of two and one quarter by one and one half inches of bone from the tibia to the humerus. At the present time seven inches of bone has been transplanted subperiostially from the tibia to the humerus. Von Bergman in discussing fracture of the neck of the femur, merely mentions fixing the separated bones with ivory bones, screws, etc. He says Scheele reported some good results in these cases. This surgery advises doing nothing at all, if the Volkman splint and sand bags prove a failure. Under the head of ankylosed joints, Von Bergman says, "resection of the head of the bones forming the joints is contra indicated except for faulty position," this is because of the possibility of a loose joint following these operations. He further states that complete bony ankylosis of the knee

contra-indicates any attempt at restoration of motion. At the present time such a statement seems absurd, for by the Murphy operation on a hip, or knee, or smaller joint, a serviceable and useful joint, that can be flexed to a degree almost equal to the normal can be obtained.

Keen's system of surgery, 1907, says the following with respect to operative procedure in fracture of the neck of the femur. "Nicolaysen has reported twenty-one cases in which he had success by nailing the fragments together; Freeman reports twelve successes by the same method." Keen says, however, in conclusion, that the entire subject of operative treatment for recent and old un-united fractures is an unsettled question. He simply refers to the operations without giving the technique. This shows what little work of this character was being done as late as 1907.

Lexer-Bevan's System of Surgery, 1908, in speaking of bony ankylosis with deformity; suggests that the proper procedure is cuneiform osteotomy. This work is less than four years old. Today where there is no infection, and with the elaborate and perfect production of the Murphy operation at hand, it would be unprecedented to do osteotomy in these cases.

Binnie's Operative Surgery, 1911, then brings us down to the present era of bone surgery, but even he, does not give the modifications and improvements of the 1912 technique now in vogue. He gives you the technique for nailing the fragments together in fracture of the neck of the femur, or around the elbow, and also the technique of arthroplasty in ankylosed joints. But compare his work and methods with Murphy's Clinic, or even with the Howard Kelly Stereo-clinic as illustrated and described—you will find that wonderful strides have been made in the last few months.

In the September Journal of the American Medical Association, George W. Guthrie, of Wilkesbarre, Pennsylvania, reports nailing together the fragments of a fractured olecranon with perfect success. This work was done out in the country in a cabin, the nail was removed in five weeks and patient had perfect use of joint. He also reports, in country practice, the nailing together with ordinary nails the severed head of the tibia that had been cut off by a blow from a hatchet, this, as in the above re-

ported case, was a perfect success. There was no infection or loss of motion.

Now, I mention these two reported cases as they illustrate that this work is not in the experimental stage, and can be done by others than a Murphy, a Bevan, a Binnie, a Mayo, etc. In this connection, I want to mention a case that I saw operated on only two weeks ago while visiting the Mercy Hospital in Chicago. A boy eight years of age had what was diagnosed as sarcoma of the head of the humerus. This diagnosis was made by X-Ray examination. The upper half of the humerus with the head was enucleated, leaving the capsule and the periosteum. A piece of bone seven inches long and one inch thick was removed from the tibia subperiostially and wired in the place occupied by the resected portion of the humerus. Next day the boy had no temperature, felt comfortable and was reading the funny paper. Several days later he told me he was perfectly comfortable, had no temperature, and no pain. This operation was done by an assistant of Dr. Murphy's with perfect ease and will no doubt give this boy a useful arm. The microscopical examination of the specimen taken from the arm showed it to be a cyst of the head of the humerus.

Ten years ago a malignant tumor of the long bones required a removal of the bone or amputation of the limb; at the present time the limb is not only saved by transplantation of bone, but the function of the limb is saved as well.

A few years ago bony ankylosis of larger joints, whether with or without displacement of the bones entering into the joint, were treated by osteotomy or resection and fixation of the limb in better position. Now, arthroplasty is done, preferably by the Murphy method. This, in the majority of cases where no infection is present, produces a useful joint with all its original functions.

The greatest aid to diagnosis in bone pathology is the X-Ray. Knowing pathology of any given trouble, you have a definite working basis to obtain the proper treatment for the same. So if we are to look for the cause of these great strides in bone surgery, you must give credit to the development of the X-Ray. With the new high-power machines (Coils, I refer to) a hip in a man weighing two hundred pounds can be taken definitely in ten to fifteen seconds. You

can know before you apply an immobilizing splint, or before you do the operative procedure, just what you have to deal with. After you have completed your work, you can from day to day watch the progress of the case by the very efficient portable machines now in use in every well-equipped hospital or sanitarium. The use of the X-Ray machine by men of experience, the experimental work done on animals, and the discovery that fat and fascia are closely allied to the bursa of joints, has brought the work to its present stage.

For a description of this recent work, Murphy's Clinic is the best that I know of. Binnie's Operative Surgery is quite brief and plain, but not just up to the times.

In regard to technique, I shall confine myself to a description of un-united fractures of the hip and arthroplasty for bony ankylosis of the knee. The technique of the open operation in old un-united fractures of the neck of the femur is as follows:

Make a "U" shaped incision beginning to the inside of the great trochanter, below the anterior-superior spine of the ilium, curve around and below the trochanter to the outer side and up to a point opposite the starting point. The downward stroke is about six inches, and cross cut should be 4 inches, reflect the skin and fascia down to the muscles, next, with a Gigli saw, which has been passed around the great trochanter beneath the muscles, saw off the trochanter as close to the juncture of the neck and shaft of bone as possible, reflect this upwards with the detached muscles. Now, by a little blunt dissection, and with good retraction, you will have the fracture well in view. Cut all the fibrous bands between the broken bones, freshen up the fractured ends, manipulate the leg in such a way as to get the best approximation of the bones and drive in one or two ordinary ten to twelve penny finishing nails,—they will go in quite easy,—then sew up the torn capsule all around the sides of the fracture. This, Murphy insists on, as of the greatest importance, sew any muscles that may be cut. Approximate the trochanter to its original site, drive in an eight penny nail to hold it in place, bring down the flap, sew it in place, putting in drain at most dependent point, if you decide to use one. Dress wound with ordinary dressings and bandage up

the hip. Place patient in bed on his back and use a Rainey splint. . . . The use of this splint is absolutely essential, as it maintains the proper amount of abduction, and keeps the strain off of the nails and the sewed capsule. The operation is not difficult and should not take over an hour to do it in experienced hands. Barring infection, the result should be perfect.

The technique of arthroplasty for bony ankylosis of the knee is about as follows:

Make a "U" shaped incision beginning over the internal condyle of the femur, go around and below the ligamentum patellae and up on the opposite side to the outer condyle. The downward stroke is about four inches and the cross cut is about three inches, reflect the skin and fascia upwards, next with a chisel loosen the bony union between the patella and the femur in its normal line. Do not cut through the extensor tendon at the upper extremity of the patella, or the ligamentum patellae below. Next peel off the external and internal lateral ligaments on each side with the capsule attached, leaving, however, the lower end of the ligaments and capsule attached to the tuberosities of the tibia. Reflect both of them downwards. These are to be used later to cover the ends of the tibia. Saw through the patella obliquely from the upper to the lower extremity, not cutting their attachment. Reflect the upper fragment upwards and the lower fragment downwards, this will expose the bony union of the femur and the tibia, with chisel and mallet cut between these structures, forming a normal convexity to the condyles of the femur. Preserve the capsule posteriorly, and the important vessels and nerves. Next with a small saw, cut off the top of the tibia one-eighth to one-half inch, leaving a ridge in the center at least one-half inch high, this is to be approximated into the groove between the condyles of the femur. You may, or may not make the sawn surfaces of the tibia concave to fit the convex surface of the condyles. The two flaps, consisting of the external and internal lateral ligaments are now brought over the head of the tibia completely enveloping it and are sewed together and to the periosteum, and to the ligamentum patellae. This must be snugly placed and securely fastened for it is to form the new joint. The lower fragment of the patella with its fat and fascia

and periosteum on the superior surface is now rotated 180 degrees so that the former outside surfaces rests against the femur, this prevents ankylosis; the two fragments of the patella are wired, the wound closed and drainage inserted on either side of forty-eight hours. Passive motion is begun in ten days to two weeks. We have an arthroplasty of the knee in our sanitarium now in the third week that has at least twenty-five per cent of motion and is doing well.

A word about asepsis in this work. Nowhere in surgery must it be better, I may say as good. The skin should be prepared for several days over the site of the wound before operating. During the operation, handle the tissues, bones, etc., as little as possible. Use sterile metallic instruments; preferably flip out the clots with them, and in subsequent dressings always wear gloves. Your asepsis can not be too good. With all these precautions you may get a metastatic infection from bad teeth, an ingrowing toe nail, or any other point that has pyogenic cocci in them. Gonorrhea, would surely give you trouble.

The after treatment is more than half the battle in these cases. In hip work the Rainey splint is indispensable. A shallow bed pan and suitable appliances to hold the cover off the limb are necessary. Strong and competent nurses, who know how to handle these cases are very essential. The same after treatment applies to the knee work, and that of smaller joints. If you have never had one of these joint cases, you will certainly know more after you have done your first case than you did before.

When we think of tuberculosis, gonorrhea, etc., with their ravages on bones and joints, and the pneumococcus and the mixed infections we have, see the crippled, and stiff joints on the streets and in the homes we visit, can we but appreciate the work of such men as Murphy, Langenbeck, Davis, Payr and others; what it means to these now afflicted and to future generations? I shall not report my personal statistics with these operations as it is too meager yet to be of value. So far our experience covers resection of the head of the humerus, resection of the external condyle of the humerus, open operation for un-united fracture of the neck of the femur, arthroplasty for bony ankylosis of the knee, open operation for compound

communated fracture of the shaft of the tibia, resection of eight inches of the fibula, and minor work on smaller joints. Our results are all that could be expected. We had mortality in one case from metastatic infection, patient aged seventy, who insisted on taking the chances by operation. Sixty years of age should be the limit in these operative cases.

In conclusion, I would say, in my humble opinion, that in the simple fractures, the open method is contra-indicated, unless you cannot hold the parts in apposition by splints, etc. As regards ankylosis where infection is present, and arthroplasty will not give good results, as in all branches of surgery, you will have to select your case.

Now that Murphy has done so much in bone surgery, Matas, in vascular surgery, Harvey Cushing, on nerve suture and nerve implantation, I venture to say that the day will come in emergency surgery where muscle, bone, artery and nerves have been severed, and where the case is seen soon enough, the severed extremity can and will be replaced with union of these important structures.

Am I an optimist?

THE MEDICAL WITNESS.

BY HON. J. B. SIZER,

Chattanooga, Tenn.

The improvement and development of medical science in recent years has brought the medical witness into prominence as one of the most important factors in the administration of justice in the courts of all civilized nations. In actions involving the validity of deeds, wills, and contracts, suits on insurance policies and for the recovery of damages for personal injuries, and in many criminal cases, the testimony of the medical witness is almost always of the highest degree of importance and frequently it is the turning point in the case. It is needless to say that the position of a witness on whose testimony the property rights, the liberty and often the life of others, so largely depends is one of the gravest responsibility and that he should

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exercise the highest possible degree of care to see that no error or inadvertence of his perverts or obscures the facts and so tends to defeat the ends of justice.

Medical testimony may be divided into three general classes. They are all of equal importance, but they differ considerably in the character of the evidence, and in the qualifications necessary to enable the witness to testify with intelligence and authority. The first class embraces medical testimony dealing solely with the facts of the particular case on trial, and such as only a medical man is qualified to give; as for instance, the nature of a wound or injury, or the condition of the body or some particular parts or organs thereof. In some cases this is the only character of medical testimony that is used; the conclusions and inferences to be drawn from the facts being so clear and obvious that the court or jury can reach them without any assistance in the way of opinion testimony. When the testimony of the medical witness is confined to a mere statement of the facts as he finds them his task is a comparatively simple one. He must, of course, possess sufficient medical knowledge and experience to be able to properly diagnose the case, and ascertain what the facts are, but any man who is competent to practice medicine at all should be able to do this and therefore it does not require either a very high order of ability or a great degree of knowledge or experience in the profession to give testimony of this kind. This kind of medical evidence differs from the evidence of the ordinary unprofessional witness only in the nature of the facts testified to.

The second class of medical evidence includes the much more common cases where the witness is required not only to testify to the facts as he finds them, but to give the conclusions which, as a man learned in the profession, he draws from these facts. The very great majority of the cases in which medical testimony is given fall within this class; in fact, it is comparatively seldom that a medical witness is called on to state merely the facts which he has ascertained as a physician, without also being called on to express his opinion as a physician, as to the conclusions to be properly drawn from those facts, or the results which will follow them. The value of this kind of testimony will

depend not merely on the care with which the facts themselves have been ascertained, but on the degree of learning, experience, and natural ability which the witness may be able to bring to bear on those facts, so as to explain to the court and jury what they mean and what results they will produce.

The third class of medical testimony is that which is strictly and exclusively expert testimony; or in other words, the cases where the witness knows nothing personally about the facts, but, assuming them to be as stated to him in a hypothetical question, testifies as an expert as to the proper conclusion to be drawn from those assumed facts. This kind of testimony is frequently resorted to in cases involving questions of insanity and other mental diseases; but, like the first class, the cases in which this kind of testimony is offered are rare in comparison with the number which fall within the second class.

This class of testimony also requires a higher degree of learning and experience than is necessary in the second class; for a witness may possess sufficient knowledge and experience to enable him to form a correct opinion on facts which he has carefully and personally observed and yet not have enough of either to qualify him to express an opinion on a hypothetical state of facts.

It is hardly necessary to say that the value of testimony of any kind depends greatly on the personality of the witness. Some very learned and able and honest men, professional and unprofessional, make very poor witnesses; and on the other hand, some very ignorant and commonplace men make excellent witnesses, and some dishonest men make plausible ones. I do not believe, however, that a dishonest witness very often deceives a jury, for the average juror is a fairly good judge of humanity, and can generally, though not always, determine whether a witness is telling the truth or not. Even among witnesses of equal truthfulness, learning and intelligence, however, there is a great difference in the value of their testimony, due to the manner in which they give it and the consequent weight of the impression it makes on the court and jury.

I think the most frequent mistake made by the medical witness in his manner of testifying

is in the too liberal use of technical terms. I do not think that this is due usually to any desire on the part of the witness to appear learned, but it is because he discusses the case before the court or jury just as he would with another medical man, and very naturally uses the technical language of his profession to express his ideas. It is a great mistake, however, for a medical witness to use technical terms if he can express his meaning in common, everyday language.

In the first place, the jury will not understand his technical terms and the witness will have to explain and interpret them in ordinary language, and therefore he would have saved time if he had used ordinary language to start with; and in the second place, the use of technical language which they cannot understand creates the impression on the jury, whether it is correct or not, that the witness is trying to air his learning on them, and so arouses a feeling of resentment, or at least unfriendliness, on their part against the witness which greatly detracts from the value of his testimony. For no man, and especially no juror, likes to have the proposition emphasized that some one else knows more than he does. He may know it to be true, but he does not want to be told so.

Another mistake which is frequently made by medical witnesses—and other witnesses as well—is in their attitude towards the lawyer who cross-examines them. The witness is prone to look on cross-examining counsel as his natural enemy, and it must be conceded that the lawyer himself too frequently assumes the same attitude toward the witness. As a matter of fact, however, the only legitimate purpose of cross-examination is to sound the knowledge and test the veracity of the witness, and to bring out pertinent facts which he knows and which have not been brought out on his examination in chief; and if a witness has thoroughly familiarized himself with the facts and, if he is to testify as an expert, with the literature on the subject, and confines his testimony to the facts he knows and the opinions he can maintain, he has nothing to fear from any legitimate cross-examination and the court will protect him from any other kind. Partly to this same hostility and partly to their too great anxiety to aid the cause of the party on whose behalf they are being exam-

ined is due the fact that witnesses sometimes seek to evade answering questions put to them on cross-examination, and try to conceal or cover up or slide over facts which may seem to be not in harmony with the opinions they have expressed. Such conduct is a mistake from every point of view. In the first place, it is no part of the duty of a witness towards the party who employs or examines him to conceal any facts, or to evade answering any pertinent questions. It is his duty, at least if employed as an expert to exercise the utmost diligence in ascertaining the facts, and forming and sustaining his conclusions thereon; but if in his investigations he ascertains facts which are, or seem to be, detrimental to the interest of his employer, that is not his fault, and his duty to the cause of public justice, which is higher than his duty to his employer, requires that he state such facts frankly and without evasion, if they are called for. And furthermore any evidence of hostility towards cross-examining counsel and any attempt to evade his questions, indicates bias and partiality on the part of the witness which a court and jury are quick to perceive, and which will greatly detract from the force of the witness' testimony. A jury never gives full credit and confidence to a biased witness, and if he is an expert or opinion witness, they will probably give him none at all.

There is one other suggestion which I want to take the liberty of making to the medical witness who expects to testify as an expert in a case, and that is: Don't fail to read over all the authorities bearing on the case in hand, so far as they are accessible, before you go on the stand. It may be that you have previously read them and think you remember them, but it is not safe to rely on such previously acquired knowledge, for you may have overlooked or forgotten something of prime importance. Neither is it safe to stop with some of the authorities without familiarizing yourself with all to which you have access. I have known the testimony of an expert witness to be rendered practically worthless because he was tripped up on cross-examination on some authority which he was obliged to admit he had either never read, or had forgotten. It is a very easy way of trapping an unwary witness, and it is equally easy to avoid the pitfall if the witness has used the

proper diligence in posting himself. It is true, of course, that in reading all the authorities in point you will in many cases find some that are not in accord with your opinion. Some of them you may be able to explain and differentiate while with others you will have to frankly take issue. But remember that it does not materially detract from the force of a witness' opinion for him to testify that he has read a certain authority, that it is not in accord with his opinion, and he does not agree with it; while on the other hand, for him to be forced to admit that he has not read an authority in point necessarily involves the conclusion that he is not as well posted as he should be, and his value as an expert is greatly reduced, if not absolutely gone.

Some of you may think that there are many cases not worth the careful preparation I have suggested, but I believe that a thing that is worth doing at all is worth doing right, and it is certainly preferable to be even too well prepared, than not quite well enough.

It is quite a common opinion among the public at large that expert testimony is a very venal and unreliable sort of evidence. I have frequently heard intelligent people express the opinion that if a man only has money enough he can procure any sort of an expert opinion he desires on any proposition. Like most general ideas, this one is not entirely without basis and yet the conclusion that expert testimony is unreliable and worthless is exceedingly erroneous. The fact is that almost every important contested case is a close one, either on the propositions of fact or of law involved in it, and sometimes on both; and there is much that can truthfully be said on both sides of it. Which side is right it is impossible to determine until the court of last resort has passed on the case and even then there are sometimes lingering doubts in the minds of the losing party and his counsel, for courts are but human and the best of them sometimes make mistakes. In such cases it is not surprising that truthful, intelligent and learned men should differ in their views as to the facts, and the proper conclusions to be drawn therefrom; and it is unquestionably of great advantage to the court and jury, in enabling them to understand the facts of the case and so arrive at the ends of truth and justice, that they should have the benefit of the opinions and conclusions

of men peculiarly qualified by education and experience to investigate the facts involved and interpret their meaning. This is the true function and purpose of the expert witness, medical or otherwise, first, to investigate and ascertain the facts; second, to be able to understand and appreciate what they mean; and third, to state the facts and his conclusions and opinion thereon to the court or jury in language that they can understand and in a manner that will convince them.

It is true that the expert witness should be able to maintain on the witness stand the theory of the party whose witness he is; otherwise he is of course worse than useless to that party and should not go on the stand as his witness at all. The same is true of the lawyer; for if a lawyer does not sincerely believe in the justice and merit of his clients' case he ought never to try it. Those people who conclude, however, that because an expert testifies in the interest of the party who puts him on the stand, therefore he is venal and insincere simply confuse the cause with the effect. The fact that he is examined as a witness for a particular party does not produce an opinion favorable to that party, but the fact that after careful consideration he reaches a conclusion favorable to the interest of that party is the cause of his being used as a witness.

It is true that in a majority of cases an expert, and a lawyer also, is able to form an opinion favorable to the party who seeks to employ him. This is not by any means universally true, because I have known both experts and lawyers to refuse to accept employment in a case because they did not sincerely believe in the contention they were desired to maintain. The fact that the general rule is as stated, however, does not argue that the expert, or the lawyer as the case may be, is either dishonest or insincere. As I have already said, most important contested cases are close ones, in which the truth is uncertain and obscure, and plausible arguments can be made on both sides. The expert who is approached by one of the parties to a controversy of this kind from whom he gets his first view of the case and his first version of the facts, begins his investigation with an opinion already more or less formed, and as first impressions are always the strongest, in a majority of cases this preconceived opinion will re-

main throughout his entire investigation, and his effort will be to find sound reasons to justify and sustain it. Nor can it justly be said that such efforts are not in the interest of truth and justice; for when all the facts have been brought out and all the reasons and arguments that can be brought to bear on both sides have been fully heard and considered the court and jury will be in much better position to determine on which side justice and right stand.

So it is that the position of the medical witness is one of importance, responsibility and honor. If he is careful, intelligent and conscientious, he can render most valuable assistance in the ascertainment of the truth and the accomplishment of justice. If occasionally an expert witness is insincere and untruthful, it must be remembered that there are dishonest and unscrupulous men in all callings and ranks of life and to condemn all expert testimony because of the misconduct of a few would be as unjust as it would be to abolish all evidence because occasionally a witness commits perjury, or to abrogate our entire system of jurisprudence because some cases are decided erroneously.

A REPORT OF ONE HUNDRED CONSECUTIVE CASES OF ABDOMINAL SECTION.*

BY J. HUGH CARTER, M. D.,

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This is a subject that one doing this class of work should give a great deal of study; both anatomically and physiologically. To do abdominal surgery we should know the anatomy blood and nerve supply to skin, muscle and viscera. Before entering the abdomen we should as far as possible have made a diagnosis. In other words we should open the abdomen for the purpose of doing a certain thing. At the same time we should be able to meet all emergencies that may arise. In fact, we should be ready and prepared to do any operation that is done in abdominal work. The incision should be made where the least possible damage will be done

to the blood and nerve supply, and it should not be larger than is necessary to do good clean work.

The soft tissues and viscera should not be handled more than is absolutely necessary; especially, the omentum. All blood vessels should be ligated as soon as severed and capillary oozing should be checked by hot sponges applied to the part or pressure. No more tissue should be removed than is necessary to remove the pathology.

All abrasions to serous surfaces should be covered over by serous membrane.

Drainage should not be used, save where we are sure of infection, or is especially indicated, as it will cause adhesions to form and thereby cause more or less trouble afterwards for which we operated.

I do not believe in flushing out the abdominal cavity for any cause, but when soiled wipe out thoroughly with wet gauze sponges. The same applies to the intestines.

It goes without saying the patient should be thoroughly prepared in every way, for the operation before hand, and the operator as well as his assistants should take all the precautions that is necessary to do clean work.

The number of cases operated upon were one hundred (100) classed as to kind of operation and for what the operations were done, are as follows:

First, Fibroids tumors of uterus	10 cases
Second, On the Intestines	3 cases
Third, Extra-uterine pregnancy	4 cases
Fourth, Pyosalpinx or pus tubes	15 cases
Fifth, Retroversion and prolapse uteri	12 cases
Sixth, Ovarian cyst	18 cases
Seventh, Gall-bladder	4 cases
Eight, Appendicitis	58 cases

Of the ten cases of fibroids, five were sub-peritoneal; two interstitial; two intra-ligamentous and one mixed. In age they varied from twenty-two to sixty years. Occurring in single and married without children, four; married and mothers of children, six. A hysterectomy was done in nine cases and a myomectomy in one, all of whom made a nice recovery.

Of the three cases of the intestines, one case a negro 28 years of age was shot with a 32 calibre pistol ball about two inches below the ensiform cartilage and one inch to the left of

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the median line, passing through the margin of the left lobe of the liver, stomach in two places, cutting the small bowel in two about the junction of the duodenum and jejunum and making two other perforations in the small bowels. The openings in the stomach were closed in the usual way, then an anastomosis by the use of the Murphy button and the perforations in the bowels were closed. The abdominal cavity was wiped out with gauze sponges, and intestines wiped off in same manner, the abdomen was closed with drainage.

The second case was caused by two 38 pistol balls making seven perforations and cutting small bowel in two in one place. The perforations were closed as in the above case, and anastomosis by the Connell method. The abdominal cavity, intestines, and wound were treated as the above case.

The third was a simple stab wound by a knife. The wound in the intestines was closed in the usual way, without drainage. All made nice recoveries.

Of the four cases of extra-uterine pregnancy; in one case the diagnosis was made about the end of the sixth week, before rupture. I operated upon the patient and the diagnosis was proved by the pathologist. Two cases with complete rupture into the folds of the broad ligaments, occurred about three and one-half months. One of these patients was in profound shock, when I saw her but by the proper care and waiting six hours until the patient began to react, the operation was successful. The other case was a partial rupture at about the end of the eight weeks and was removed without any trouble. This one occurred on the right side and I removed the appendix also.

Of the 15 cases of pus tubes operated upon none were operated upon during the acute stage and drainage was used in every case where the sac ruptured in its removal. In three cases vaginal puncture was made for drainage also. Both tubes were removed in five cases and in three cases both tubes and ovaries had to be removed and when this has to be done, I always remove the uterus as it can be of no use, and may be, a source of a great deal of trouble afterwards. The appendix was removed in five of these cases also.

Of the 12 cases operated upon for retrover-

sion or prolapse uterii. The Barrett operation was done in six cases, ventral fixation in two cases and shortening the round ligaments by doubling them back upon themselves was done in four cases. Three of the patients operated upon by the Barrett operation have since become pregnant, and two of the three went to term and were delivered without any trouble. The other one has not been able to go more than six months before she would abort. It made no difference what the treatment was. She had become a mother three times before the operation. The appendix was removed in four of the cases also. The ovaries or a part of an ovary was left in every case if possible.

Of the 18 cases operated upon for ovarian cysts, in size, they varied all the way from a small follicle to the size of a water bucket; containing from one ounce to three gallons of fluid.

The appendix was removed in 11 cases also. All did well save one who died on the fifth day of peritonitis; following a severe hemorrhage six hours after the removal of a small cyst of the right ovary. The patient was operated upon at eight o'clock in the morning and the hemorrhage occurred after a belch about four p. m. I got to the patient about five o'clock when she was put on the table, abdomen reopened and the ovarian artery ligated again, as this was the cause of the hemorrhage. But in spite of all treatment the patient died on the fifth day as above-stated. Here I think I used poor judgment in not draining the abdomen after having to open it the second time.

Of the 4 cases of gall-bladder; one was for empyema with stone following an attack of typhoid fever four weeks previous. Two for the removal of stones alone. The other one for empyema without stones. The gall-bladder was drained in all the cases, with perfect results. In the cases operated alone for stones the appendix was removed also.

Of the 58 cases of appendicitis: I will classify them under 4 headings and discuss each class separately.

First. The acute appendicitis seen and operated upon in the first twenty-four hours from the beginning of the attack, 13 cases, no deaths.

The interesting features in these cases were that the infection was entirely confined to with-

in the appendix and that in three of these cases there was a complete obstruction of the lumen of the appendix about the middle, with the distal end full of pus ready to rupture at any time, hence; we can see the importance of an early operation.

Second. Acute appendicitis, ulcerative or gangrenous without abscess formation, five cases, no deaths.

This group of five cases (to me) is the most interesting of any of the group from the fact that nature, with the proper help or if even left alone, with the omentum and the plastic exudate from the peritoneum, entirely surrounds the appendix or the infection may be completely destroyed only leaving a part of the appendix which is usually bound down by adhesions, as three of these cases were. In two of the cases, there had been a diffuse peritonitis, one being a female, included the ovaries and tubes.

Third. Acute appendicitis with abscess formation, twelve (12) cases and one death.

In this group, the condition was similar to the one above save, that nature was unable for some cause to destroy the infection but did throw a wall, as it were, around the appendix with the aid of the omentum, peritoneum and small intestines, thereby localizing the infection. This, we might say was done until the past few years without the aid of the doctor or, in many cases, in spite of him. That is, the doctor would not put the patient at absolute rest in bed and abstain from giving diet and purgatives in some form by the mouth when patient was already perhaps nauseated or vomiting which would only increase or aggravate the condition. After this treatment had been kept up for days and the patient continues to grow worse, then a surgeon was called for and he too, usually made the same mistake by advising an immediate operation thereby, adding fuel to the fire and so often the patient would die in a short time following the operation while if the treatment advised in this paper is carried out, as has been shown by Dr. Oschner and his followers, ninety to ninety-five per cent of the infection will become localized when the patient can be operated upon with perfect safety in most cases. To show just what I mean, I will report in full, one case of this class.

Mr. R. M. J., age 41, white, occupation, farm-

er; Sunday morning, January 8, 1911, about 2:00 o'clock was taken ill with pain and nausea in stomach which continued to grow worse until Monday night when I was called as consultant. At this time there were all the symptoms of a beginning peritonitis with fever 103, pulse 120, some vomiting and pain all over the abdomen. The stomach was washed out at once (which had to be repeated twice in the next twenty-four hours), with normal saline; then saline by rectum, using the Murphy drop method. Morphine grains 1-4 was given hypodermatically and an ice bag to abdomen for twelve hours, when hot applications were used instead.

This treatment was continued until Wednesday when the temperature had dropped to 99 and pulse to 100. Thursday, we could feel a mass in appendiceal region, temperature normal. At eight o'clock, two ounces of castor oil was given and the next day (Friday) at one o'clock, an incision was made over the mass into the abdominal cavity where the appendix was found to be completely ulcerated into, which was surrounded with pus.

The caecal end was ligated with catgut and removed as it presented itself in the incision, otherwise, I would not look for the appendix. Drainage was inserted, wound dressed and patient returned to his bed.

The case I lost was similar to the one above and was seen by me on the night of the third day. Temperature 102, pulse 120 and respiration 26. The patient was sent to the hospital the following morning, temperature being 99 pulse 90, we operated believing the infection was still confined within the appendix. But on entering the abdomen we found a gangrenous appendix sloughed in two, surrounded by small abscess, the remainder of the appendix was removed. Drainage inserted, patient sent to bed. The third day peritonitis developed and she died on the seventh day. Here again I am afraid I used poor judgment and my patient died. Perhaps had I waited until abscess had become well walled off the patient would have recovered.

Fourth. Chronic catarrhal or recurrent appendicitis, twenty-eight cases, no deaths.

These were operated upon after two or more attacks and is spoken of as the "interval" operation" operating at this time, there is less dan-

ger than at any other, and in most cases, recovery is sure.

This, gentlemen, is the result of my first one hundred (100) cases of abdominal section:

Tennessee Trust Building.

DISCUSSION.

ON THE PAPER OF DR. CARTER.

DR. WILLIAM D. HAGGARD, Nashville: Mr. President—I think it is extremely important for us to analyze our cases of abdominal section, as well as other cases in which we resort to surgery, and not only our first one hundred, but every hundred, whether publicly or privately. I see nothing more illuminating than to look over our experience to see our mistakes and to congratulate ourselves upon the successes.

This list is an interesting one. Like all of our lists, it does not present enough of surgery of the upper abdomen. We have four cases of gallstones, but no cases of stomach surgery. It is not the fault of the operator, but rather of the community, and the status of our diagnostic methods at the present time. Surely, there are more cases of chronic trouble about the gallbladder and stomach that need surgical attention that ought to be investigated. So we must all of us do our part many times when we open the abdomen. It has been brought out at this meeting that we should not content ourselves by exposing a small appendix, which is disappointing to the surgeon when he brings it up, but if the symptoms justify operation, we should look for a further possible cause of the trouble. Not only may we find gallstones, but inflammatory ulcer, and so we should not stop without examination of the entire abdomen. To be sure, the handling of the gallbladder and the emptying of it will make a patient sick for two days, with nausea and vomiting, yet it is worth while to be able to assure that patient there is nothing else left. It is a comfort to the surgeon in after years to look over the record of that particular case and find it stated that the gallbladder was explored and found negative. I shall not go into details of the many phases of the subject that were brought up. The appendix subject and the question of always removing the uterus just because the tubes and ovaries had to be removed, are topics that are always open to discussion. I think the doctor's attitude about the appendix question is about what we all have and is pretty well settled. For my own part, I rarely remove the uterus in the presence of simple tubal disease, feeling that the uterus has already done its work. It has transmitted the infection to the adnexa, and, as a rule, it can recover itself. Sometimes the operation is supplemented by a curettage, but personally I have been rarely called upon to remove the uterus left after an operation of that sort. I think the uterus has a certain anatomical position that is important, and that we need not necessarily remove it. I say this in view of the fact that I have twice, after I have made

a supravaginal hysterectomy, found carcinoma left in the cervix which I have removed, both patients remaining alive and well at the end of two and three years respectively.

It is a large question the essayist has brought before us. It opens up the entire field of abdominal surgery.

A point I would like to emphasize is the extreme importance to the individual as well as to us that we should analyze carefully and honestly our work in order that we may profit by it in the future. (Applause.)

DR. W. T. BLACK, Memphis: I wish to compliment Dr. Carter on his successes and for reporting his failures. I only want to utter a word of warning against whether we should remove the appendix systematically or not in doing laparotomies. Lately a practitioner was sued for removing the appendix when doing a laparotomy. He was successful in the outcome of the suit, however, but I think we should refuse to operate on patients unless they leave it to our judgment, as to what shall be removed.

DR. LUCIUS E. BURCH, Nashville: This has been a most interesting and instructive paper, and if we analyze the cases closely, there are many things to be detected that will be of great value to us.

In the series of fibroid cases, I noticed the essayist had one case that was only twenty-two years of age. That is rather unusual. Most of the fibroid cases that we see range between twenty-eight and forty-five, as a rule. There was one thing I was specially pleased with, and that was the way Dr. Carter managed his case of extrauterine pregnancy in which rupture had taken place. The woman was in shock, and he waited for her to recover from shock, and then operated. I believe that is the proper procedure, although it is something that you can stir up discussion on any time.

In days gone by I used to follow out the procedure mentioned by Dr. Haggard in regard to leaving in the uterus. I believe, of course, we all have our opinions that where the tubes and ovaries are hopelessly diseased, it is best to remove the uterus. In looking back over my own cases and analyzing them and seeing the after results, I know in my own experience that my results have been better in which I have performed a hysterectomy, and have removed absolutely everything except the cervix. I have also been unfortunate, like Dr. Haggard, in having cancer return in the stump, but not as fortunate in being able to save the patient. I operated and the disease returned within a year. I believe that it is the best principle in appendicitis, in the acute stage, where we see the disease late, to follow out the Ochsner method and carry the case to the interval and then operate.

I certainly am glad to have heard the doctor's paper, and I am sure after hearing it, it will make us all study our own cases and it will be of benefit to all of us.

DR. GEORGE R. LIVERMORE, Memphis: I should like to compliment Dr. Carter on reporting his successes and bringing them to our attention. I would like to

take issue with him in regard to making a positive diagnosis in all cases of abdominal surgery. That is almost an impossibility. I wish to report a case which shows how easy it is for the big men to make mistakes as well as the little fellows. At a hospital in New York a case of supposed ectopic pregnancy was brought in for immediate operation; three different diagnoses were made by three prominent gynecologists in New York; yet when they operated none of them were right. So I say it is impossible to make a positive diagnosis in all cases before operation.

In regard to removing the uterus in the presence of pus tubes, I think it is a good plan if there is a profuse purulent discharge from the uterus, for it is almost impossible to cure that unless the uterus is removed. If there is no purulent discharge from the uterus, and the uterine mucous membrane is in good condition, removal of the pus tubes is usually all that is necessary.

DR. RICHARD A. BARR, Nashville: It is possible the impression was created that the occurrence of cancer in a cervix left behind after hysterectomy might be used as an argument against that operation. I do not know that it has been proved that cancer is any more likely to develop in a cervix left after hysterectomy than if the uterus had not been removed. If so, that difficulty could be obviated by removal of the cervix. If it is all-important to remove the uterus, the danger of cervical cancer can be removed at the same time by removing the cervix. The danger of malignancy can be relieved to a great extent by thorough extirpation of the mucous membrane of the cervix that is left behind, dissecting out the mucous membrane of the cervix where malignancy is apt to develop. A patient who has undergone supravaginal amputation and coring of the cervix is less liable to develop cancer than one left with the cervix and uterus entire.

DR. CARTER (*closing*): I wish to thank the gentlemen most heartily for their liberal discussion of my paper.

With regard to removing the uterus, I said that when the ovaries and tubes both had to be removed, then I would remove the uterus in every case. I shall continue to practice that as long as I have good results, and the uterus is of no benefit, and it is a great deal of trouble in some cases afterwards. I believe the uterus is liable to lead to a great deal of trouble after the tubes and ovaries have been removed, and so I make it a practice to remove it whenever the tubes and ovaries are taken out.

In regard to the remarks of Dr. Livermore concerning diagnosis, I did not say that we had to make an absolute diagnosis, but when we are reasonably sure that a certain condition exists within the abdomen, we should not hesitate to operate. At the same time, we may find other conditions and remove them also. One should have a certain definite idea in mind and go in for that purpose. If there is a fibroid, or if there is an ectopic pregnancy, he may make a mistake in

either one, but he should make up his mind that he is going to do a certain thing. You ought to be ready and prepared to do anything that is to be done. I do not believe in making an indiscriminate incision into the abdominal cavity for diagnostic purposes. Let a man study his cases, and use every means possible to make a diagnosis, and he can pretty nearly always do it. Of course, there are exceptions, but these are not many.

In regard to cancer of the cervix being more frequent after supravaginal amputation, if the uterus is left alone, I do not think any one from a perusal of the literature of the subject will say that cancer of the cervix is more common than if the uterus is left alone, but in all cases, if the cervix is lacerated or ulcerated, remove it as well as the body of the uterus.

LAEWEN'S METHOD OF ANESTHESIA.*

BY W. A. BRYAN, M. D.,

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In the year 1901, in February, Fernand Cathelin attempted to do local anesthesia for herniotomy by injection of a cocaine solution into the sacral canal extradurally, and failing concluded and stated before the Biological Society that the method was disappointing. His conclusions were supported by the work of Tuffier, Reclus and Sicard. Chipault was able to resect a coccyx painlessly by the method and in another case operate on a fissure, but failed to gather the full possibilities. Tuffier reiterates in 1910 that extradural sacral anesthesia is not applicable in human surgery.

Stockel in Germany investigated sacral anesthesia for the amelioration of labor pains. His plan was to inject solutions of novocain varying in strength from one-fifth of one per cent to three per cent and in quantity from 3 c. cm. to 83 c. cm. To this was added a little suprarenalin. The quantities employed in his cases with the greatest satisfaction were 30 c. cm. doses, and the best strength was one-half of one per cent novocain. Stockel employed this method in 141 cases of labor, and reported unquestionable favorable results in 111 of them. The sacral pains were especially reduced, the passage of the head

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through the vulva was without pain absolutely in 9 cases, and almost painless in 16 others.

Laewen quotes Stockel as summarizing the advantage of the method in the following words: "The results were therefore very variable, although in the majority of cases they were altogether worthy of notice." Rielander reported that by employing a solution containing one-half of one per cent each of alypin and novocain he was unable to obtain complete anesthesia of the perineum so that he could suture a laceration without pain although it was materially reduced. In his work Stockel considered the employment of sacral anesthesia only from the obstetrician's point of view and did not study it from the surgical standpoint, which is the well executed purpose of Dr. A. Laewen in his excellent article published in the *Deutsche Zeitschrift für Chirurgie*, December, 1910.

Laewen gives the following statement explaining why the work of the above named pioneers was a failure more or less complete: "First, most of them have worked with an ill-chosen anesthetic. Cocain is, above all, unsuited for the production of a real anesthesia, injected epidurally, because in sufficient quantity and concentration it would produce marked general effects. I also believe that eucain and alypin are unsuitable for epidural anesthesia for the same reason. In my contribution (*Zeitschrift für Chirurgie*, 1910 No. 20) giving for the first time a plan whereby certain anesthesia could be produced by the extradural injection of a novocain solution, I expressed myself concerning the questions that might arise and can only repeat here what I said at that time. If epidural injection shall completely interrupt nerve conductivity and offer a useful anesthesia, an anesthetic must be employed that can be introduced into the epidural space in greater concentration and greater volume. The strong concentration renders possible a far-reaching action of the anesthetic upon the nerve trunks lying in the dural sheaths; and the distribution of the attainable anesthesia depends upon the volume of fluid introduced. In sacral anesthesia we are in want of a vehicle—such as the cerebro-spinal fluid in lumbar anesthesia—which is capable of carrying the analgesic substance quickly up to many nerve segments. In order, therefore, to accomplish a fairly high-reaching anesthesia a relatively large quantity

of the solution must be injected into the sacral canal. In my first attempts I employed a novocain chlorid solution with adrenalin and found that a useful extradural anesthesia was produced if the patients were caused to sit up after the injection. Two per cent appeared to be the best strength with these solutions, however, the results were not uniform. They were attainable when I began to use novocain bicarbonate solution likewise two per cent. This solution will be discussed more fully later on. From my experiences I recommend these solutions for sacral anesthesia. I do not claim that anesthesia can be produced only by their employment; I advise their employment because they give an absolutely certain extradural anesthesia, as I will show in my reported cases.

The second reason, why former investigation did not succeed in producing practical anesthesia is because they did not place their patients in the right position. Cathelin and the other authors all point out that the sacral canal stands in the broad communication with the extradural space lying between the vertebral periosteum and the dura. This fact has been demonstrated on the cadaver and on animals. It is also proven by the favorable effect sacral injections produce on nerves arising higher up when irritated (as in sciatica, tabetic crisis and such like). No one of these authors has drawn correct conclusions from these facts. They have made their injections in the horizontal position or with the pelvis elevated. Both are failures for the present purpose. In order to block the nerves in the extradural space a concentrated solution of anesthetic must be held as much as possible where its effect is to be spent. Since this quantity, owing to the toxicity even of novocain must be rather small, we must make the injection preferably while the patient is in the sitting posture or place him in that posture immediately afterwards, or bring the operating table into such position that the pelvis shall be below the level of the head. Now the anesthetic remains in the lowest segment of the extradural space and here by degrees interrupts the conductivity of the nerve trunks around which it lies.

The third point one must remember in extradural anesthesia that the nerve trunks in the sacral canal are surrounded by firm connective tissue sheaths, prolongations of the dura. There

are circumstances present, therefore, which do not confront us in other methods of anesthesia. The anesthetic must be diffused through these connective tissue sheaths into the nerve trunk. Since the fluids of the tissues dilute the solution it must be employed in concentrated form. In order to get functional interruption of the nerves a certain quantity of the solution must penetrate into their substance; and this requires a certain amount of time. Consequently, one must wait longer for anesthesia here than in the other methods for regional anesthesia."

The preparation of the anesthetic solution must be done under strict aseptic precautions and no attempt should be made to keep stock solutions on hand. The ingredients may be put up in powdered form and kept in well stoppered or sealed phials till needed. Laewen has suggested two formulae as follows:

No. 1 Soda Bicarbonat C. P. (Merck) . . 0.15
Soda Chlorat 0.1
Novocain 0.75

Dissolve in 30 c. cm. of distilled water. This makes a two per cent solution.

No. 2 Soda Bicarbonat C. P. (Merck) . . 0.2
Soda Chlorat 0.2
Novocain 0.75

Dissolve in 50 c. cm. of distilled water which makes a one and one-half per cent solution.

The powder is to be added to the quantity of distilled water, given respectively under formula No. 1 and formula No. 2 and brought to the boiling point for an instant only and immediately cooled down in running water. Longer boiling spoils the anesthetic property of the solution, while it is claimed by Laewen that the momentary boiling adds to the anesthetic value. If boiling is continued longer than this the novocain is thrown out of solution in the form of an oil.

After cooling the solution five drops of adrenalin 1:1000 is added.

The dose of these solutions recommended for the production of surgical anesthesia is twenty c. cm. of solution No. 1 and twenty to twenty-five c. cm. of solution No. 2. This dosage occurs on first sight to be a dangerous one, because we are in the habit of thinking of the local anesthetic group in terms of cocain. But

novocain in six or even eight grain doses makes a far slighter impression on the patient's general condition than one grain of cocain does. I say this advisedly, for I am not unaware that some of our American texts have recorded the dose of novocain at from one-half grain to one grain and a half. There need be no uneasiness from the dose recommended in this paper, for in my limited experience with the drug I have seen no alteration of the vital functions. The only case where it might have been suspected was in a neurotic woman who was given the usual dose, but it was almost entirely ruined by over heating and hence, had lost the bulk of its novocain. Smaller percentages and a lesser volume prove often unsatisfactory. The two per cent solution is employed for strong, robust people, the weaker one for feeble or small individuals.

The plan for injecting the solution is to place the patient in the sitting posture with the buttocks projecting slightly over the edge or corner of the table, in very much the same position as that occupied by a man sitting on a rail fence, so that the long axis of the syringe may be brought into line with that of the sacral canal. The region is painted with a 2 or 3 per cent tincture of iodine or otherwise sterilized. If desired a drop or two of a local anesthetic may be injected into the skin at the point of puncture, but this is unnecessary if the patient is possessed of a little self control, for the introduction of the needle should produce no more pain than the introduction of a hypodermic needle. Now the lower opening of the sacral canal, the hiatus sacralis, is located by palpation, the needle is inserted in a vertical direction and as soon as the membrane of the hiatus sacralis is perforated the syringe is carried a little forward, so that the point of the needle may not enter the periosteum in the canal anteriorly. The needle may be introduced 3 or 4 centimeters. By introducing the needle no further than this the dura cannot be punctured, which terminates from 6 to 9 centimeters above the hiatus, opposite the lower border of the second sacral vertebra. Sometimes a drop or two of blood will escape from the needle if it is introduced detached from the syringe. The needle should be of the same type as that used in aspirating the spinal dura, or such as is employed in intra muscular injection of mercury. The syringe should be large

enough to hold the dose required and should be easily detachable from the needle. In making the injection it is easy to tell whether the needle is within the canal, otherwise the solution meets with resistance and requires force for its injection.

The hiatus sacralis is difficult to locate in stout individuals, and the plan is not recommended for such. Again, the membrane covering the hiatus is sometimes ossified thus preventing introduction of the needle. I know of no case where the plan has been attempted in children.

After the injection is finished the patient remains in the sitting position or assumes it if it was deemed necessary to inject in another position, for fifteen minutes, when complete anesthesia should be produced. Anesthesia may require only ten minutes, or in other cases as much as twenty-five. Laewen says the anesthesia begins between the tip of the coccyx and the anus. The anesthetic is at its maximum in the male when the glans penis becomes insensitive. In those who develop analgesia instead of anesthesia, the duration of the anesthetic is shorter.

The duration of the anesthesia is on the average about one hour. It is not only variable for individuals, but for different areas and structures, disappearing last in those tissues which were the first to develop it.

Of very great importance is it from the surgeon's standpoint to know what the anatomical limits of the anesthesia are. The upper limit is about the level of the brim of the pelvis. Laterally the insensitive zone extends far out into the gluteal region. The penis, the urethra, the lower segment of the rectum together with the prostate, the vagina, the lower part of the uterus and the vulva are all anesthetized. The contents of the scrotum are not anesthetized. The explanation for the particular field of anesthesia is based upon the fact that the following nerves are blocked: anococcygeal, the internal pudic, inferior hemorrhoidal, the perineal and the dorsal nerve of the penis or clitoris. The visceral branches also of the third and fourth sacral nerves are blocked, and occasionally branches even of the first and second sacral. From the above it may be gathered that a large number of operations come within the scope of sacral anesthesia. The work of Stockel embraced 141

patients, all of whom were obstetrical cases. Laewen's cases reported in the article referred to above were eighty in number and embraced the following conditions. There were thirty cases of hemorrhoids and one case of hemorrhoids associated with prolapse of the rectum, nine cases of fistula in ano, one case of fistula associated with a para-anal abscess and one opening 8 cm. from the anus and complicated with pointed condyloma and one case in which several fistulae surrounded the anus, one case of appendicitis which was a failure and required a general anesthetic, although the region outlined above was thoroughly anesthetized, three cases of para-anal abscess, two gluteal abscesses, three perirectal abscesses and a furunculous condition situated 5 cm. from the anus, three cases of abscess in the cul-de-sac of Douglas of unmentioned origin and three others of "perityphlitic" origin, two urethral strictures, three ruptured urethrae, one of which was complicated by infiltration of urine, and one hypospadias previously operated on, but a fistula remained, two cases of phimosis, one tubercular fistula of the scrotum, one foreign body (needle) in rectum, two prostatic abscesses, one of which opened through a perineal sinus, and one lueitic stricture of the rectum, one cancer of the inferior part of the rectum, one condyloma vaginae, one extremely large pendulous fibroma of the labium majus and one case of endometritis glandularis.

Siebert's list of cases are quite as interesting. He reports fifty-two cases, and adds in a footnote that since completing his article he had had eight additional cases. He operated on nine cases of hemorrhoids, and ligated the vessels by suture in another case of severe hemorrhage from hemorrhoids, nine cases of phimosis and two of paraphimosis, three cases of condylomata of the labia, one of labium and anus, one of labium and clitoris and one of the prepuce, eight cases of fistula in ano, one of gangrene of the skin (presumably of the scrotum), one cancer of the vagina in which specimens for examination were excised both from vagina and rectum and one inoperable carcinoma of the vagina, treated by curettement, one case of rectal polyp, one vaginal fistula, six cases of proctitis, one fissure, one gluteal abscess, three cases of infected vulvo-vaginal glands, and a case of foreign body (pipe stem) in the rectum.

By considering the similar demands from an anesthetic standpoint one may easily see how several other operations may be carried out by the same plan. The sphincter relaxes when anesthesia is established and may be divulsed if necessary. The bladder may be entered by external urethrotomy or by Cocke's method and presumably prostatectomy may be done.

An important item to study at this juncture is the ill effects resulting from the administration of novocain in sufficient dosage to produce anesthesia. To get the facts as accurately as possible before the association I will take up seriatim every case in which either Laewen or Siebert has given a report of the slightest ill effect. In Laewen's case No. 20 there was a bitter taste in the patient's mouth a few minutes after the injection. In case No. 25 five minutes after the injection there developed a transient nausea and the patient vomited once. This was a fat patient into whose canal the operator had great difficulty in inserting the needle. Case 26 fifteen minutes after the injection was nauseated, sweated and had a movement of the bowels. In case 29 the anesthesia rapidly disappeared. Case 30 had an injection incorrectly given upon the sacrum instead of into the canal which was followed by nausea, sweating, high tension pulse, repeated vomiting and nausea, the remainder of the day. At the second attempt the injection was correctly given with no ill effect: case 35 was transiently nauseated at the moment of injection. Case 48 had at the time of injection a feeling of pressure in the calves of the legs, was thirsty and had a feeling of oppression in the chest. Case 52 had vertigo in two minutes after the injection, became very pale, but on lying down immediately recovered, five minutes before time to operate. In case No. 55 the left foot went to sleep during the injection. Case 68 had transient nausea and pallor one minute after the injection. Case 71 had slight vertigo and pallor 16 minutes after the injection. Case 72 showed symptoms of collapse at the moment of injection, sweated, felt bad, had irregular pulse. These symptoms rapidly subsided and he had entirely recovered before beginning the operation. Case 75, extremely emaciated and anemic, after 7 minutes saw lights before his eyes, the pulse became small, and there was a sudden outburst of perspiration. The head was lowered

and he rapidly recovered. Before the injection he had been subjected to an extremely painful rectal examination. Case 77 had a very transient chilly feeling. Case 78, of urethral stricture had transient nausea during the introduction of the sound.

Siebert's cases: Case 1, vomited once four hours after the operation, probably due to a dose of morphine. Case 2 sweated during the injection. Case 4 lay down immediately after the injection and lay in a relaxed condition for 10 minutes. Case 5 did the same thing, Case 9, sweated during the injection. Case 12 vomited one time 3 hours after finishing the operation, attributed to morphine. Case 14 sweated slightly during injection. Case 25 sweated and felt blood rush to head; recovered in a few minutes. Case 28 sweated during injection. Case 30 had transient nausea during the injection and was hysterical but was in good condition during operation. Case 33 sweated profusely during the injection and the pulse was slowed to 40. Immediate recovery. Case 35 sweated, became pale and the pulse was small and slow at the time of injection. In a few minutes he felt perfectly well. Case 43 sweated, became pale and the pulse was slowed during injection. These symptoms rapidly disappeared. Case 45 sweated and was thirsty during the injection. Case 47 went into a hysterical fit and was anesthetized with ethyl bromide.

It can readily be seen that there are no evidences in the above reports, most of which would ordinarily be considered too insignificant to mention, that there is anything that could be considered contraindicated to the use of the drug. What results will be produced when a large series of cases has been accumulated we must wait and see.

In my own work I have used the method in four cases only, two of which were hemorrhoids, one fistula in ano and one fissure. The anesthesia was perfect in every respect, there were no bad effects, unless the hysterical manifestations shown at the time of injection in one woman should be attributed to the drug. It seems that Laewen has introduced a plan by which general anesthesia may be comfortably, wisely and safely discarded in a large number of cases. There is no danger from the after local effects of the injection more than attaches to the use of any local hypodermic anesthetic.

ANAPHYLAXIS.*

BY J. F. GALLAGHER, M. D.,

Nashville, Tenn.

The importance assumed in the past few years of specific medication, and particularly that of biological therapy, must be recognized by every physician if he would in any measure profess to keep abreast of the times. He may await the absolute proven efficiency of a remedy and use it with blind empiricism but, in the use of these newer methods, if he is to progress intelligently and rationally, he must know something of the fundamental principles of their action and application.

It is not my purpose to presume to give you anything but a synopsis of the subject-matter of anaphylaxis as I have found it in the literature, hoping to have brought out in the discussion many points not alluded to.

When one looks over the voluminous writings on this subject the thing most striking is the long time this phenomenon has been known with the true significance remaining unrecognized. Pepys, who lived at the court of Charles Second, observed that the blood of a dog was poisonous when injected into another animal, and Magendie in 1839 tells of rabbits that died after a third injection of egg white. Knorr in 1895, and Uhlenhuth in 1897, both produced anaphylactic phenomena while working in other directions but failed to recognize it. Pettenkofer's child, who died suddenly after the injection of diphtheria antitoxin and whose death was ascribed to status lymphaticus, is now known to have died of "serum disease." Courmont in 1900, von Behring and Kitashirna in 1901, came nearer to the true meaning, but it was Portier and Richet who, in 1902, while investigating actinia poisoning, observed a condition in dogs which they considered a reduction in resistance and coined the word from the Greek—Anaphylaxis. Theobald Smith had noted certain marked phenomena occurring in guinea-pigs who were used in the standardization of diphtheria antitoxin. He mentioned it to Professor Paul Ehrlich upon the latter's visit to Boston in 1904.

Ehrlich being unable to explain the matter asked an assistant, Otto, to work it out. Otto's researches together with those of Rosenau and Anderson in the Hygienic Laboratory at Washington, laid the foundation of our present knowledge of this most interesting syndrome.

A definition of anaphylaxis is difficult but that given by Shaw is perhaps the most satisfactory; "By anaphylaxis is meant the supersensitiveness of the organism to the introduction of foreign proteids, the route of introduction being parenteral, i. e. not by the mouth or digestive tract but by intra-venous and subcutaneous routes, and even, presumably, by means of serous surfaces which have no connection with the digestive tract, i. e. conjunctiva or peritoneal cavity." It has been shown, however, that anaphylactic phenomena may be produced by the introduction of proteid through the intestinal tract and by other avenues, e. g. the brain, and the mucous membrane of the nose. As an illustration; it has been observed that those who have eaten horse flesh almost certainly exhibit anaphylactic phenomena when injected with horse serum.

The conditions necessary for the production of the Theobald Smith phenomena are: 1st. The introduction, by way of some of the routes mentioned above, of a proteid; this initial dose being called the "sensitizing" dose. 2nd. The lapse of a period of time varying, according to the species of animal, from 5 to 6 days, to 15 days. 3rd. The introduction of a second dose of the same proteid this being called the "reacting" dose. Emphasis should be laid on the fact that the same proteid must be used as the anaphylactic phenomena follows the laws of specificity very closely. For example, if we inject a sensitizing dose, say of egg albumen, and after waiting the required time introduce horse serum as the reacting dose, no reaction occurs, and vice versa. The albumen of eggs of different varieties of birds if used alternately will not cause a reaction.

The dose need be but very small. One-millionth of a c. c. of horse protein and one-twenty-millionth of a c. c. of egg albumen have been observed to sensitize a guinea-pig. Large doses delay the reaction and this misled Rosenau and Anderson into thinking for a time that large doses (in the guinea-pig) did not produce the phenomena.

*Read before the Asklepiion Club April 27, 1912.

It was thought for a time that a foreign proteid i. e. a proteid of an animal of a different species, or of a vegetable, was necessary to cause a reaction. Shaw and Embleton in work upon rabbits showed that by injecting extract of organs of other rabbits, signs suggestive of anaphylactic shock developed. Uhlenhuth, von Dunjern and Dunbar have gone further and produced anaphylaxis by injecting extracts of the animal's own organs and fruits.

The symptoms of anaphylactic shock vary with the animal species, and the ease with which it may be brought about also varies with the species. Thus, it can *not* be produced in white mice, cattle to a very slight extent, rabbits fairly easily while guinea-pigs are most susceptible. Man is perhaps quite susceptible but, obviously, to what extent has not been definitely determined. The more important symptoms (which develop almost instantly after the injection of the reacting dose) are; quickening of the respiration, which may be spasmodic and irregular, to be followed by asphyxia. Death occurs by paralysis of respiration, the heart continuing to beat several minutes after respiration ceases. This is due to the spasm of the muscles of the smaller bronchioles, of peripheral rather than central nerve action.

The pulse rate is increased, becomes irregular and blood pressure falls. There is a decrease in the coagulability of the blood and extreme leucopenia with an almost complete disappearance of the polymorphonuclear cells. Vomiting is common and in some animals, especially the dog, diarrhoea is present. The temperature falls to an alarming extent which may amount to 66F. in the dog. Itching is present and an erythematous rash appears. The animal is restless and may present various nervous phenomena as nystagmus, opisthotinous, or paralysis may supervene.

It is but natural to expect that any procedure which would result in such a remarkable series of phenomena would bring forth almost numberless explanations and indeed it has. These may be divided into two classes; those which are based on the theory of anti-bodies and those which are not. Of the latter, Gay and Southard advanced the theory that proteids capable of producing anaphylaxis contain a substance which they called "anaphylactin" and which is absorbed

slowly and irritates the tissue cells but does not cause toxic symptoms. It does increase the absorbing powers of the tissue cells for other substances in the foreign proteid introduced which are toxic and which are ordinarily rapidly eliminated or otherwise disposed of by the unsensitized animal so that when the reacting dose is given the cells are eagerly receptive of the poisonous substances (made so by the anaphylactin) and the equilibrium of the cells is disturbed.

Of those holding to the theory of antibodies, Nicolle supposes the antigen to produce two antibodies (1) a lysin which, in the presence of complement, splits the protein into toxic products and (2) precipitin or coagulin which combines with the antigen and renders it insoluble or inert. The former acts quickly and renders the animal sensitive; the latter more slowly and renders it immune.

Richet offers a simpler explanation. He believes that the first or sensitizing injection causes the production of an antibody which he calls "toxogenine." This unites with the antigen subsequently injected—the reacting dose—to form a new substance "apotoxine" which is poisonous.

Frudberger's theory is similar to this one and is, perhaps, the most tenable. He holds that when foreign proteids are introduced into the body by a parenteral route, anti-proteid bodies are produced which are in the nature of ferments. These ferments act on the proteid and split it up into simpler bodies forming peptones, etc., which are poisonous. The first injection of proteid into the animal forms the anti-proteid bodies. Upon a subsequent injection of the same proteid (after the anti-proteid bodies have formed) the latter unite with the former producing poisonous products, as peptones, which result in the symptom-complex called anaphylaxis. Frudberger and Grober with trypsin and Biedl and Kraus with peptone, have produced phenomena identical with anaphylaxis by their introduction into the blood stream. A similar toxic proteid has been isolated from milk albumen.

We have long known that by the introduction of diphtheria antitoxin into a person we produce what is called "passive immunity," i. e. the antibodies having been elaborated by the cells of another animal and are present in the blood serum, by injecting that serum into another animal, the antibodies in that serum confer immunity on the

second animal—passively. It has been shown that by injecting the serum of an animal that has previously received a sensitizing dose of a foreign proteid into another animal and after waiting a short period—4 to 48 hours—called the fixation period—and inject the reacting dose of the same proteid into the second animal, the latter will exhibit anaphylactic phenomena. This is called *passive anaphylaxis*. If this serum from the sensitized animal is mixed with a small amount of specific antigen before being injected into the second animal, the latter will not be sensitized to a subsequent injection of the period but may present anaphylactic phenomena immediately upon receiving the injection. This was discovered by Richet and called “anaphylaxis in vitro.”

It has been observed that after sensitizing an animal and just so much of the reacting dose is injected (and the latter not proving fatal), a third dose of the same proteid will have no more effect than the first—which is nil. This phenomenon is called *anti-anaphylaxis* and is brought about by the anchoring of the anti-proteid bodies, in the presence of complement, to the proteid of the second dose. The digestive or cleavage products being sub-lethal, it is obvious that after all the anti-proteid bodies (receptors) have become bound, a later injection will have no effect. After a time this third injection may act as a sensitizing dose. Besredka and others have found that by injecting a very minute amount of the antigen as the reacting dose—not enough to cause shock, or but slightly—will prevent shock upon the introduction of a larger dose. This is the “specific method” of producing anti-anaphylaxis, or preventing anaphylaxis.

The use of deep etherization, chloral hydrate, paraldehyde, trional, magnesium sulphate, calcium chloride and other agents, have been used to prevent anaphylaxis with varying and conflicting results. This is called the non-specific method of producing anti-anaphylaxis. From a practical standpoint, the possession of a means of preventing the occurrence of anaphylactic phenomena would prove invaluable.

As is eminently proper, efforts have been made to reduce this mirror-maze of microscopic endeavor to a practical basis, with the result that about every disease known has had some new explanation. The diseases due to bacterial infections, especially the eruptive fevers, have been

ascribed to the anaphylactic reaction of the body cells to the bacteria, rather than being due to the toxic products of their growth.

The cutaneous tuberculin reaction of von Pirquet is perhaps definitely proven to be a local anaphylactic reaction.

Batty Shaw, on the strength of his work with Enbleton, and that of Uhlenhuth, Dunjein and Dunbar, showing the possibility of producing anaphylactic phenomena by the introduction of *native* proteids into the body, suggested that possibly those clinical phenomena seen in sclerosis of the brain, liver, kidneys, etc., are due to anaphylaxis. So on through, loss of cardiac compensation, puerperal eclampsia, angioneurotic oedema, black water fever, asthma, individual peculiarity to certain foods, etc., we find suggested explanations on the basis of anaphylaxis. This does not lessen the value of the discovery of the phenomenon. A great, virgin field of investigation has been opened and a great many more golden scientific treasures will be found there.

GOITRE.*

BY LEWIS W. SPRADLING, M. D.,

Chattanooga, Tenn.

It is not the purpose of this paper to attempt any revolution in the array of theories pertaining to aetiology, pathology, complications, or treatment of goitre: neither does it intend to startle you by new theories, nor any uncommon observations, or investigation; but if it can aid in the least to a better understanding of a disease so prevalent, so serious, and so difficult of recognition in its incipency, then we are well repaid for all labor. These items touching this extremely important affection are entirely original; crude, and imperfect as they are, none of it is copied, and but little of it based upon any recent literary studies of goitre. For all of which I shall ask your charitable indulgence.

DEFINITION.

Goitre: A peculiarly serious disease of the nervous system, characterized by marked nerv-

*Read before Chattanooga Academy of Medicine and Hamilton County Medical Society, September 13, 1912.

ousness, palpitation of the heart, enlargement of the thyroid, and often of the supernumerary glands, anaemia, mental irritability, exophthalmos, and general organic disturbance.

AETIOLOGY.

The true cause of goitre is probably not known, but many factors conducive to the development of its interesting train of symptoms are demonstrable; but the undemonstrable condition of the nervous system that characterizes every case, is still pleading for more thorough pathological exploration. Whether the underlying genesis of this ailment be hereditary or acquired, we may not know; but we all have a text-book acquaintance with most of the exciting causes; such as anaemia, shock, fright, worry, reverses of fortunes, etc., etc.; and we have observed that it is more frequent in women than men. It is said to be endemic in Switzerland, and especially in the alps of Savoy and other altitudes. We know also, that it is frequently accompanied by the condition known as cretinism, or myxedema; although, in this condition we have atrophy, or absence of the thyroid gland. Personally, I have observed in most all cases that it develops at, or near puberty; that is, the first symptoms are manifest then, but not all. In two cases, the first subjective symptoms directly relative to goitre were observed at the menopause. Whatever may develop hereafter, as to the cause of goitre, it would be well for us, pending a better understanding of its aetiological aspects, to guard more cautiously the girl at puberty against all possible tendencies to emotion. Prevent, if possible, any sources of worry, or chagrin, and encourage every tendency toward wholesome habits and pastime; since we so often find the first symptoms manifest themselves then, that in this way may be obviated, or held in abeyance the too frequent development of an incipient goitre. Whatever may cause the nervous and mental symptoms, and the enlargement of the thyroid body, may be said to be the real cause of the disease, and these manifestations belong solely to the symptomatology. We have no proof that the nervous and circulatory symptoms can be accounted for by the local glandular hypertrophy or hyperthyroidism. Several years ago Bartholow said that "some structural changes had been found in a majority of cases, in the

sympathetic ganglia—especially the inferior ganglia," but he did not say just what kind of "structural changes were found, whether degenerative, inflammatory, infiltrative, or what. According to best authority the pathological changes which are constantly observed in all established cases of goitre are these:—anaemia, in variable degree; dilatation of the glandular arteries and veins, which is due to vasomotor paralysis. These dilated vessels producing the hypertrophy by their long continued enlargement, and the effusion of serous fluid into the interstitial tissues. The same vascular changes and their resulting hypertrophy probably causes the increase of fat which produces the exophthalmos.

It is without any authority outside of personal observation that I have concluded in my own mind that all of the symptoms, subjective and objective may be accounted for, or are dependent upon lesions of the sympathetic nerve. Whatever may be the character of those lesions, they are unquestionably associated closely with the functions of the thyroid gland, and as one author has said, "may be regarded as a manifestation of excessive or perverted thyroid activity." Certain it is that the over-activity of the heart, the vasomotor paralysis, and their resulting muscular weakness, mental aberration, and the hypertrophy of involuntary glandular structures, is all attributable to sympathetic involvement. Thus we may ascribe the symptoms exclusively to a disorder of the sympathetic nervous system.

Since the sympathetic system is most active, if indeed it does not predominate at puberty in both sexes, and again at the menopause; and we might say also, in the early months of gestation; is it not probable that certain agencies, or a combination of agencies operating at those periods bring about the condition known as goitre?

SYMPTOMS.

The symptoms of this disease are variable in character and intensity; nearly always difficult to diagnose in the incipient stage; generally develop slowly, although cases of goitre have been reported as having followed almost immediately a severe nervous shock, but I have never seen such a case. However, it is not impossible when we consider the probable cause or causes, but it

is difficult to know that there was not already a predisposition in the patient so afflicted. Prior to any noticeable objective symptoms, the patient usually complains of paroxysms of more or less distressing tachycardia; more or less dyspnoea, muscular weakness, insomnia sometimes, and always a "nervousness"; all of which may also be accompaniments of severe anaemia, tuberculosis, and many other of the progressive ailments. Indeed, prior to the appearance of a single pathognomonic symptom, we may, and do often meet with the most aggravated group of incipient, or masked symptoms; such as violent and distressing palpitation and dyspnoea; distinct heart murmurs, and thrills resembling those of aneurysm, in the carotids; nervousness, irritability of temper, fits of despondency, vertigo, headache, insomnia, etc., but there is usually, (in fact I have never seen a case develop that was not accompanied by) a peculiar alteration of the voice, and cough of a more or less severe type. (These are probably due to the mechanical effects of the bronchocele-pressure symptoms, but they are sometimes found before the gland is perceptibly enlarged, probably from a retro-vascular, or retro nervous goitre.) Aphonia is often observed before any perceptible enlargement of the gland.

In the incipient stage of goitre, as we have already said, the diagnostician is most likely to go astray, and it is here that we wish to impress most the little differences noticeable between this and ailments so similar in general outline. The tachycardia is unlike that of gastric origin, or that of organic heart disease, inasmuch as it is accompanied by a constantly accelerated heart action which differs from that of arteriosclerosis in the absence of extreme arterial tension; the paroxysms occur with less suddenness when not induced or superinduced by some digestive error, and they stop more gradual, leaving still an abnormally overactive heart, which seems to give no discomfort, and which is without any marked increase in tension. The palpitation is not always traceable to the "dyspeptic," the valvular heart diseases, or to simple anaemia; all of these may be excluded if no other means of diagnosis offers, but the fact that the paroxysms come on without regard to diet, exertion, and often during sleep, and always accompanied by a constantly over-active heart and pulse, would

point almost always to incipient goitre. The tachycardia of this disease is either the cause of, or the result of an accompanying muscular weakness of the heart itself, and this weakness is constant and progressive. Thus rendering any intercurrent affection, such as typhoid, malaria, pneumonia, and lagrippe extremely perilous, if the goitre be not recognized. Let me beg your indulgence for a brief history of a couple of cases. One case was a girl, 18 years old, good family, and personal history, was working in a hosiery mill, and apparently in robust health. She came home from work with a chill one morning about nine o'clock. The chill was only moderately severe which was followed by fever, 104 degrees which lasted until two p. m., when she went to sleep and slept profoundly until six o'clock next morning. Her sleep resembled that of severe narcosis. She could only be aroused enough to utter incoherent monosyllables. She returned to her work that day, but on the third day, one hour earlier she had another chill, which stamped her ailment as malarial intermittent. This second chill was not more severe in any way than the first, but was followed by the prolonged and profound sleep. She was put on a vigorous malarial treatment, but in spite of all, she had another chill on the third day, coming on in the afternoon, and during the fever following her heart action became extremely unsteady, and weak. I remained with her until after dark; gave full doses of glonoin, and other heart stimulants, but she died quite suddenly at 9:30 that night. I had never suspected goitre in her case, and it was about noon the day after she died, that in company with a fellow physician, we returned to have an autopsy which was granted me, when we noticed quite a perceptible enlargement of the thyroid gland, and it seemed to have been brought into prominence altogether by the post-mortem shrinkage. We found the heart in diastole, pale, dilated, thin; but with no valvular lesions whatever.

The other case was that of a woman about 35, unmarried, good family and personal history, always healthy, never in bed more than a day at a time from sickness in life, weight about 175, was member of wealthy family, consequently lived an easy life. Her complaint was of "nervousness," palpitation, insomnia, and weak-

ness, for which she was treated for several weeks, and to all appearances successfully; but withal, the prodromes of goitre was suspected, although no thyroid enlargement or exophthalmos was at all perceptible. (History of some romantic love affairs in early life was obtained, and one in particular at the age of fifteen, in which quite a bit of romance must have figured according to her parents' statements.) One year after her first visit to my office, while visiting at a sister's in a distant city, she developed what the attending doctor diagnosed as typhoid. She did well until in the second week, when an extremely dangerous heart weakness was noticed, following a high febrile exacerbation. This was noticed about two p. m., the doctor told me, and continued until about ten that night, when she suddenly died. I reached the home about the hour of her death, and in company with her doctor, saw the corpse next day at noon. Like the other case, the thyroid gland now stood out quite prominent. The doctor said that he had not noticed any enlargement of it before. No post mortem.

The course of these two cases is so similar that they are here outlined for the purpose of impressing the importance of early diagnosis in all goitres, for while the disease in its own course may not be so serious, yet it certainly furnishes a most dangerous complicating condition with other ailments.

TREATMENT.

First and most important, is rest,—complete rest; and freedom from worry, and excitement of every kind. An absolutely quiet, and in every way possible, an agreeable life for the patient until the heart assumes its normal tone, and all nervous symptoms have disappeared. This is not always readily obtained, but even partial success in carrying it out is worth the effort. Without adherence to the above regime, medical treatment will avail but little. A nutritious, easily digestible, and at the same time palatable diet, with a well regulated, though guarded exercise, and a strict observance to eliminate all excitement, intemperance, or over-indulgence of every kind; the encouragement of light, agreeable, and wholesome literature, with just enough

employment of some suitable, and if possible, preferred kind, that will act more as a recreation, or diversion. These suggestions are of paramount importance. As to the medical treatment: perhaps nothing in the way of tonics is better than that suggested, and so long used by Bartholow, namely, *quinine*, *ergotin*, *belladonna* and *iron*. These must be combined and administered as indicated, *secundum artem*. *Arsenic* is often beneficial, as are some of the heart tonics, such as *digitalis*, *stropanthus*, etc., when especially indicated. *Thyroid extract* has been reported as beneficial, but personally, I have only tried it in a few cases, and in them without any beneficial results; in one case the symptoms were aggravated, and it was discontinued.

Surgical treatment should be employed in every operable case, but of course all are not; and when performed, while it is a simple operation, great care is required to separate the nerves, and to remove only the affected portion of the gland, and also to suture the remnants if the gland has been completely divided. The operation is usually done under a local anaesthetic if the enlargement be not of the extensive, or diffused type. The incision is made parallel with the wrinkles of the neck down through the structures to the capsule of the gland, being careful to push aside any muscular layer encountered and hold it back. Free the nerves if any are in the field of operation. Control hemorrhage by ligature if necessary, step by step when a vessel must be severed. Bleeding is usually quite free, but easily controlled if the operator is not in too much hurry. The capsule is divided to expose the enlarged nodule, which is shelled out with little difficulty. The lobes, if divided, or any considerable gap remains between them, must be deeply sutured with fine catgut, as is the deep fascia; the glandular sutures should pass through the capsule. The skin incision is closed with black silk. Drainage is unnecessary unless the nodule was cystic, and some oozing keeps up from the gland; then a few strands of braided silk may be left through the cleft in severed lobes. A light dermatol gauze dressing and simple circular bandage completes the toilet.

In no case should the whole gland be removed, as myxoedema, or other nervous disturbances are sure to terminate fatally.

THE JOURNAL*of the***Tennessee State Medical Association****Office of Publication, Jackson Building, Nashville, Tenn.****OCTOBER, 1912****EDITORIALS****THE AMERICAN MEDICAL ASSOCIATION.**

President Murphy in his address to the House of Delegates at the Atlantic City session last June, made a comparison of the membership in the association for the years from 1908 to 1912 and showed that during the past four years, 4,899 members have resigned, 2,726 have been dropped for non-payment of dues, making a total of 7,635 members taken out of the association, and asks why? He further says that in the United States there are practically 102,000 physicians with only 34,000 of these in the American Medical Association. A comparison of the membership shows some states thoroughly organized with sixty-six per cent of their physicians as members of the American Medical Association, such as North Dakota, while others are as low as twenty-two per cent, Tennessee. He says: "It appears to me it is the obligation of the association to determine why the state of North Dakota has not eighty or eighty-five per cent and the state of Tennessee an equally high percentage. Are we doing a sufficient amount of work for the every-day practitioner to keep him interested? Are we giving him sufficient for the five dollars which he pays for his membership and the JOURNAL? Or, what in addition must we do to keep alive the interest in the association and to obtain his support and membership?"

It is not for the purpose of attempting an adequate reply to President Murphy's timely suggestion to the House of Delegates, that they scrutinize and analyze the causes for these con-

ditions, but to call attention of fellow Tennesseans to our deplorable lack of interest in the National Organization. It is an especial reflection upon us at this particular time, when our state has been honored, by the selection of one of our own members as the President of the National body.

Tennessee not only claims the Presidency, but a Tennessean is on the Judicial Council, the Council on Medical Education and various other administrative committees. Are we content to live our narrow lives and draw sustenance and profit from the practice of our profession, without offering our help in every possible way to those great men in medicine who are devoting their time and money to the uplift of American medicine? Are we so blinded by personal greed or lost in selfishness so deep, that we cannot see the great fight which is being made in our behalf and in the behalf of humanity in general by this great National Medical Organization? Are we content to sit idly by our fireside and let others fight our battles for us?

Are we, men of medicine, less willing, in the medical war which is being waged against hypocrisy, disease and death, to volunteer our service and give our assistance, than our fathers were in the sixties to fight for our Southland? We answer no, a thousand times no, and believe that it is only necessary to call to the attention of our profession the fact that we rank lowest in membership in the American Medical Association of any state in the Union.

We call upon our members, now approximately representing only fifty per cent of the profession, to bestir themselves and draw into the state and national associations every available and reputable doctor in Tennessee. The fight against the well-organized and splendidly equipped League for Medical Freedom has just begun, we need your help not only to combat evils from without but also those from within. We need the self-reliance and moral force which can only come through perfect organization. The

American Medical Association stands for the highest in medicine and through its various councils and committees is striving with might and main to purify existing conditions and to advance in every conceivable way the cause of American medicine. It is unnecessary for us to remind you in detail of the special work which is being done by the Council on Medical Education, the Council on Health and Public Instruction and the various committees, all of which you are familiar with, but we ask are you a member? Have you contributed the paltry sum of five dollars per year and are you receiving therefor a journal worth ten times the cost? If not, then bestir yourself and do your duty. A postal to the Secretary will give you full information.

THE PASSING OF THE VILLAGE DOCTOR.

Elsewhere in this issue we are publishing a likeness of Doctor John Cowden, who died at his residence in Petersburg, Tennessee, September 20, 1912. The appreciation was written by a lifelong friend who was also a member of the "old school," which is fast becoming but a memory, and was the occasion which inspired the writer to mentally compare the old village doctor with the modern physician. He says: "He was not only a very fine physician, who attained eminence in his profession, but a high-class citizen in the community in which he lived, becoming the councilor and confidential advisor of his neighbors. He was indeed the family physician with all that this implies wherever he went, a relation existing between physician and family that to a large extent has been obliterated in this day and time, by the easy access to medical centers and hospital advantages."

The words above quoted could have truthfully been applied to the large majority of physicians fifty years ago. Even in the writer's memory of the dim and misty past, the village doctor was the chief functionary of the district, always wearing a calm, serious smile which bespoke his tranquil disposition and gave confidence to his patients. And everybody was his patient: His services were always gratuitous, and to offer

him a fee was to wound his feelings. His horse, like everyone was his friend, and no more familiar image clings closer to memory's walls, than the recollection of the village doctor riding up the lane, always bringing joy and happiness to family after family. A sense of safety always accompanied him and that dread fear of some impending danger was immediately banished when he threw his bridle over the pickets on the front fence.

The village doctor was, in fact, the god-father of half a hundred families.

The little maid, just entering into the world of trials and troubles, would count the dear old doctor as her dearest friend and sitting on his knee would listen to the ticking of his watch, a family heirloom of generations, as he tells some wonderful story of goblins and dwarfs and fairies, and before she realizes his intent, he has coaxed the noxious dose into her mouth and with a smile that is contagious he wins the devotion of anxious parents and makes the bitter palatable.

He was the repository of all secrets of the family, and long before the parents knew, the little miss would make him her confidante and tell him her love story, and he would never betray her confidence.

Many a young man of the present day can look back on the misty past and remember with what shame and humiliation he confessed his first boyish troubles to the village doctor and always found him an unfailing sympathetic friend.

His was the hand that guided misdirected youth and often from his purse came the necessary funds to educate a favored son in medicine who should in time succeed him.

Surrounded by friends for miles around, honored and respected, his wisdom and ability never questioned, his life was peaceful, what more could man desire? That the venerable old fellow could make an error of judgment was deemed to be out of the bounds of reason and no one questioned the mysterious saddlebags which contained his library as well as his supply of drugs.

In public life he was always in demand, his was the duty now imposed upon a mayor, Board of Aldermen and Board of Trade. He welcomed all conventions, introduced all public speakers, employed the school teachers, personally solicit-

ed all subscriptions, whether to build a church or a new bridge, was the arbiter of all difficulties and often sat as judge in civil disputes.

In addition to his public life he was always first on the list of invited guests and would gallantly lead the hostess, bending his fine old head over her hand, as he whispered courteous gallantries into her listening ear.

It was the old village doctor who would implant the first kiss on the fair forehead of the new-made bride and these same old wrinkled hands, crossed and recrossed by the marks of time, would smooth her troubled brow and soften her pain in labor.

"His optimistic view of life in general, his earnest and extreme solicitude for those intrusted to his care, his sympathy for all who were in distress, and his benevolence and charity has made an undying impression.

His kind are fast passing off the stage of action, but the memory of them will linger and abide with us forever."

A FINAL REMINDER.

This is the last opportunity the JOURNAL will have of calling the attention of the physicians of the state to the duty which rests upon them of asserting themselves in the selection of nominees for the next legislature. As pointed out at length in the September issue, many matters of supreme importance both to the people and to the profession of Tennessee will come up for consideration. If they are not settled aright it will be chiefly because the physicians who understand the merits of the case, refuse to arouse themselves in time from their accustomed lethargy. On November 4 the personnel of the legislature will be determined and thereafter less willing ears will listen to any appeals that may be made.

It is more than possible that if the physicians in each county would unite in the request, a public health plank could be written into the platforms adopted by the majority, if not all of the various county conventions. This in itself would

have a potent influence in gaining a hearing when the legislature assembles.

If the profession of Tennessee stands for progress, if it really desires reforms in its health laws, it must speak out. And NOW is the time to do so. Let it not be said that our own inertness is in any sense responsible for the low rank our state occupies with respect to its public health activities. Let us not prove recreant to the trust which is ours. Reader get busy!

MISCELLANEOUS

In compliance with a recent act of the post-office department passed August 24, 1912, we publish below data required in sections 467 1-2, 2, 3, 4 and 5.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC.,

of Journal Tennessee State Medical Association, published monthly at Nashville, Tennessee, required by the Act of August 24, 1912.

NOTE.—This statement is to be made in duplicate, both copies to be delivered to the postmaster, who will send one copy to the Third Assistant Postmaster General (Division of Classification), Washington, D. C., and retain the other in the files of the post office.

<i>Name of</i>	<i>Post Office Address</i>
Editor, Perry Bromberg, M.D.	Nashville, Tenn.
Managing Editor, as above	" "
Business Managers, Editor	" "
Publisher, Cumberland Presbyterian Publishing House	" "

Owners: (If a corporation, give names and addresses of stockholders holding 1 per cent or more of the total amount of stock).

Tennessee State Medical Association, Nashville, Tenn.

Known bondholders, mortgagees, and other security holders, holding 1 per cent or more of total amount of bonds, mortgages, or other securities:

None.

(If additional space is needed, a sheet of paper may be attached to this form.)

Average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the six months preceding the date of this statement. (This information is required from daily newspapers only.)

PERRY BROMBERG,

(Signature of editor, publisher, business manager or owner.)

Sworn to and subscribed before me this 30th day of September, 1912.

CHAS. B. H. LOVENTHAL,

Notary Public.

(My commission expires October 5, 1914.)

(Seal)

Form 3526.



DR. JOHN COWDEN.

Dr. John Cowden

Dr. John Cowden, aged 78, died at his residence in Petersburg, Tenn., September 20, 1912.

This simple announcement informs his many friends and acquaintances that the earthly mission has closed of one that was justly held in high esteem by a great many people.

He was graduated from the Reformed Medical College, of Macon, Ga., in 1856, and at once commenced the practice of medicine in the community in which he was born and reared, and continued in the practice until the time of his death, almost three score years.

When he began to practice very little was known about the cause of disease compared with what the bacteriologist and chemist have revealed to the profession of this day. But Dr. Cowden developed into a clinician by close study of pathological symptoms that caused him to stand high as a physician with the profession and the laity. He was a close observer of the therapeutic action of drugs and his wide experience made him familiar with their use and indications in the treatment of disease.

He was not only a very fine physician that attained eminence in his profession but a high-class citizen in the community in which he lived, becoming the councillor and confidential advisor of his neighbors.

He was indeed the family physician with all that implies wherever he went, a relation existing between physician and family that to a large extent has been obliterated in this day and time by the easy access to medical centers and hospital advantages of the present.

His optimistic view of all conditions, his earnest solicitude for the welfare of his patient, his sympathy for all who were in distress, and his benevolence and charity towards all has made an everlasting impression on all that knew him.

His kind are fast passing off the stage of action but the memory of them will linger and abide with us forever.

NEWS ITEMS.

Dr. Casa Collier, of Memphis, has returned from a trip to Chicago.

Dr. A. M. Gamble, of Maryville, is in New York visiting the hospitals.

Dr. M. M. Cullom, of Nashville, left October 1st for a three months stay in Vienna.

Dr. and Mrs. W. E. Buist, of Nashville, have returned from a month's stay in Detroit, Mich.

Dr. and Mrs. W. L. Simpson, of Memphis, have returned home after spending the summer abroad.

Dr. and Mrs. W. D. Haggard, of Nashville, have returned from a visit to Drs. Mayo, of Rochester, Minn.

Dr. E. L. Ellis, of Maryville, lost his residence by fire October 4th. However, it was well covered by insurance.

Dr. M. M. Hannum, of Maryville, returned home a few days ago after visiting several points through the South.

Dr. Z. L. Shipley, of Cookeville, has been doing post-graduate work in Chicago during the month of October.

Dr. H. T. Brooks, of Memphis, has returned after spending the last five months in Vienna, doing post-graduate work.

Dr. Clinton Brush, of Nashville, announces the removal of his office from Eighth Avenue, North, to the Eve Building.

Drs. L. E. Burch and John Overton, of Nashville, announce the removal of their offices from Eighth Avenue, North, to the Eve Building.

Dr. and Mrs. B. G. Henning, of Memphis, announce the engagement and approaching marriage of their daughter, Lady Em to Mr. L. D. Forte.

Dr. S. M. Bloomstein, of Nashville, was operated for hernia at St. Thomas Hospital on October 7. We are glad to report the doctor doing nicely.

Dr. W. E. Hibbett, Health Officer of Nashville, has returned from Washington where he attended the Congress on Hygiene and Demography.

At a recent meeting of the Nashville Board of Education the office of Medical Inspector was created and Dr. A. B. Thach, of Nashville, was elected.

Dr. T. J. Coble, of Shelbyville, who recently underwent an operation for chronic appendicitis, in the Mayo Clinic is now at home and quite well again.

Dr. Larkin Smith, of Nashville, narrowly escaped serious injury when he ran his automobile into the excavation now being made for the Capitol Boulevard.

Contracts for the foundation of the Galloway Memorial Hospital, to be erected on South Campus, Nashville, have been let and the work will begin shortly.

Dr. J. I. D. Hinds, of Lebanon, is in St. Thomas Hospital where he recently underwent an operation. We are pleased to report that he is doing well.

Dr. G. C. Savage, of Nashville, will soon begin to remodel his building on Eighth Avenue, North, adding another story which will be used as physicians offices.

The little son of Dr. W. G. Frierson, of Shelbyville, recently underwent an operation for appendicitis. We are pleased to report that he is entirely well again.

Dr. M. E. Link, Superintendent of the Davidson County Tuberculosis Hospital has resigned and will make the race for the legislature. His successor has not been elected.

Dr. W. S. Farmer, of Cookeville, has just returned from an extended visit to Atlanta, Ga., Norfolk, Va., West Point and New York City, where he has been taking a post-graduate course at the Polyclinics and attending the Congress on Hygiene and Demography.

Drs. Paul DeWitt and O. N. Bryan, of Nashville, narrowly escaped serious injury, when a street car coming rapidly down Fatherland Street, struck the rear end of their automobile. We are pleased to report both of the doctors uninjured.

The Medical Department of Vanderbilt University held its opening exercises on September 19, with the largest class in its history present on the opening day. The number of matriculates approximates four hundred.

The exercises were opened with prayer by Dr. Wm. Lunsford and Dr. George H. Price welcomed the students on behalf of the faculty.

We are pleased to report the reorganization of the Obion County Medical Society with a membership of twenty-three and the following officers: President, Dr. J. F. Darnell; Secretary, Dr. W. A. Reed.

At their recent meeting Dr. D. M. Pearce, of Union City, presented an excellent paper on "Artificially Induced Climatic Conditions as an Adjunct to the Treatment of Tuberculosis in the Early Stages." This paper will be published in a later issue of the JOURNAL.

Under the auspices of the Columbia Lodge, No. 31, Free and Accepted Masons, the laying of the cornerstone of the Kings' Daughters Hospital at Columbia, Tenn., occurred on Tuesday, September 24.

Dr. John A. Witherspoon, of Nashville, formerly of Columbia, was to have delivered the principal address, but was unavoidably detained. Dr. H. O. Anderson, President of the Maury County Medical Society, delivered an address which was well received.

The hospital, we are informed, is to be a fifty-bed hospital and to combine charity and pay features and will be of great benefit to the citizens and profession of this thriving little city.

PROGRAM EAST TENNESSEE MEDICAL ASSOCIATION, JOHNSON CITY, TENNESSEE, THURSDAY AND FRIDAY, OCTOBER 10th AND 11th, 1912.
CLUB ROOM OF MUNSEY MEMORIAL CHURCH.

OFFICERS.

President, Dr. Oliver W. Hill, of Knoxville.
Vice-President, Dr. J. O. Nichols, of Etowah.
Vice-President, Dr. B. M. Tittsworth, of Jefferson City.

Secretary-Treasurer, Dr. H. P. Larimore, Bates Block, Chattanooga.

COMMITTEE ON ARRANGEMENTS.

Drs. C. J. Broyles, E. A. Long, J. W. Cox, W. J. Matthews and H. D. Miller, all of Johnson City; and Dr. W. R. Dulaney, of Jonesboro.

All sessions will be held in the Club Room of the Munsey Memorial Church.

Sessions begin at 9 a. m., 1:30 p. m. and 7:30 p. m.

Short business sessions may precede each scientific session.

Each gentleman whose name appears upon the program is expected to be present and fill the engagement.

Election of officers and selection of place of meeting for fall of 1912 will occur at beginning of afternoon session of last day.

An automobile ride will be given by the profession of Washington County. Details of same will be announced at the meetings. All are cordially invited.

A special program will be rendered for the night session of first day. The public most cordially invited and urged to attend. Time 7:30 p. m. Place, Club Room of Munsey Memorial Church.

The program follows:

"Doctors' Obligation to Future Generations," by Dr. Oliver W. Hill, of Knoxville, President of the Association.

"The Human Tongue," by Dr. Wm. St. John, of Bristol.

"Medicine Abroad," by Dr. Cooper Holtzelaw, of Chattanooga.

PROGRAM.

Association called to order by Dr. C. J. Broyles, Chairman Committee on Arrangements, at 9 a. m., Thursday, October 10, 1912.

Prayer by Rev. W. M. Morrell.

Address of Welcome, by Mayor W. A. Dickinson, of Johnson City.

Address of Welcome, by Dr. J. P. Randall, of Johnson City, on behalf of the Washington County profession.

Response on behalf of the Association, by Dr. R. M. McCown, of Knoxville.

ANNOUNCEMENTS.

Introduction of the President, Dr. Oliver W. Hill, of Knoxville.

(Papers will be called in the order here listed. After the entire list has been called, any who have not responded will be called again.)

1. M. H. P. Panhorst, Jonesboro, "The Pediatrician as a Dietetist."
2. C. P. Edwards, Erwin, "Subphrenic Abscess Following Operation for Appendicitis."
3. James Sawyer, Knoxville, "The Prognosis of Pulmonary Tuberculosis."
4. C. P. Fox, Greeneville, "Rational vs. Drug Therapeutics."
5. S. R. Miller, Knoxville, "The Palliative vs. the Operative Treatment of Hernia."
6. C. B. Wylie, Chattanooga, "Intranasal Deformities."
7. B. M. Tittsworth, Jefferson City, "Tuberculin and Tuberculin Treatment."
8. E. Dunbar Newell, Chattanooga, "Cancer of the Uterus" or Edw. T. Newell, Chattanooga, Phylacogen in Articular Infections—Report of Cases."
9. A. L. Rule, Knoxville, "Sudden Death."
10. James H. Atlee, Chattanooga, "The Obscure Fevers of Children."
11. E. A. Long, Johnson City, "A Glimpse of Chicago Surgery and Surgeons."

12. Benj. B. Cates, Knoxville, "Spina Bifida."
13. Chas. P. McNabb, Knoxville, "The Influence of the Thyroid and Parathyroid Bodies on Metabolism."
14. J. B. Haskins, Chattanooga, "Goiter Plus Hyperthyroidism."
15. W. K. Vance, Bristol, "Report of Cases."
16. C. M. Capps, Knoxville, "Ocular Therapeutics with Reference to Local and Constitutional Treatment."
17. J. G. Eblen, Lenoir City, "Meningitis."
18. C. E. Ristine, Knoxville, "Food For Thought. Generation, Regeneration and Perpetuity of Life. Fate of Mortality."
19. Albert G. Kern, Knoxville, "Surgery of the Pancreas."
20. J. J. Waller, Oliver Springs, "Tobacco."
21. S. M. Miller, Knoxville, "The Red Cross."
22. H. E. Christenbery, Lonsdale, "Aseptic Management of Labor."
23. J. O. Nichols, Etowah, "The Physician and Infant Mortality."
24. G. E. Campbell, Elizabethton, "Vaccine Therapy."
25. A. G. Kyle, Knoxville, "The Therapeutic Efficiency of Salvarsan."
26. Gus Shipley, Athens, "Myocardial Inefficiency."
27. W. N. Lynn, Knoxville, "Some Observations in Anesthetics."
28. J. W. Cox, Johnson City, "A Healthy Progeny."
29. J. Q. A. West, Knoxville, "Proctitis."
30. M. A. Blanton, Baileyton, "Coughs."
31. J. R. Sutton, Elk Park, "Milk Poison."
32. W. D. Richmond, Knoxville, "Surgical Diagnosis for the General Practitioner."

Titles of papers received after program has gone to press will be filed in the order received and called on completion of the above list.

Dr. Lucius P. Brown, of Nashville, returned home after spending several days in the East, where he attended the International Congress of Applied Chemistry, and delivered an address on the phosphate deposits of the United States.

MARRIAGES.

The marriage of Miss Louise Crotty, sister of Dr. and Mrs. Edwin L. Ellis, of Maryville, to Mr. D. R. Goddard, took place at the Ellis home, September 26, 1912.

The wedding of Miss Mabel Williams to Dr. W. A. Reed, of Union City, took place at the home of the bride, in Greenwood, Tenn., October 9, 1912.

The wedding of Miss Elise Epperson to Dr. William A. Howard, of Union City, took place at the bride's home in Algood, Tenn., October 9, 1912.

Dr. J. M. Melton, of Crozet, was married to Miss Emma Frances Clark, at the bride's home at Whitehall, September 30.

DEATHS.

Dr. A. M. Gould, of Cleveland, Tenn., age 75 years, died of heart failure Wednesday morning, September 18, 1912. He is survived by his wife, one son and two brothers.

COUNTY SOCIETY PROCEEDINGS.

PUTNAM COUNTY.

The Putnam County Medical Society held its last regular meeting in Cookeville, October 3.

Dr. W. S. Farmer read an excellent paper on "Gonorrhea." He advised the O'Crowley method of treatment and exhibited some instruments necessary for the treatment of this disease.

The society was well attended and good interest was manifested.

The next meeting will be in Cookeville, first Thursday in November.

H. C. CURTIS, *Secretary*.

CARROLL COUNTY.

The Carroll County Medical Society met in the courthouse in Huntingdon the fourth Tuesday of September and held quite an interesting meeting.

A good clinic was held by Dr. G. C. Bryant, which was appreciated by all members present. The main feature of the program was a paper on Pellagra, by Dr. J. B. Cox. The paper was an able one and the doctor demonstrated his ability to handle the subject.

The meeting, as a whole, was a success and we look forward to the next one with pleasure.

Next meeting October 22.

B. C. DODDS, *Secretary*.

BEDFORD COUNTY.

The Bedford County Medical Society met in regular session September 19, with the following members present: Drs. G. W. and S. S. Moody, J. P. Taylor, T. R. Ray, E. W. Patton, W. G. Frierson, W. M. Orr, F. B. Reagor.

Dr. G. W. Moody presented an interesting paper on "Arterio-Sclerosis," which was well discussed by most all present.

After the reading of the above paper, the society took up the matter of the meeting of the Middle Tennessee Medical Society, which will convene in Shelbyville in November.

There being no other business to come before the society, it adjourned to meet again the third Thursday in October, when Dr. J. R. Freeman will present a paper on "Interstitial Nephritis."

F. B. REAGOR, M. D., *Secretary*.

BLOUNT COUNTY.

The Blount County Medical Society met in Maryville, September 2nd, with the following members present: Drs. J. P. Blankenship, A. M. Gamble, J. A. McCulloch, J. E. Carson, E. L. Ellis, J. L. Jenkins and M. M. Hannum, with Dr. J. D. Singleton as visitor.

Minutes of the previous meeting were read and approved. Dr. Carson, newly elected member, read a very interesting and instructive paper on the "Diagnosis and Treatment of Appendicitis." The differential diagnosis was well delivered. Dr. Hannum opened the discussion laying especial stress upon an early diagnosis and early operation, he also described the modified Sims posture to be used for drainage in septic cases. Dr. Jenkins spoke at length upon the medical treatment.

Dr. Ellis will be essayist for the October meeting.

Dr. Hannum will be alternate.

M. M. HANNUM, M. D., *Secretary*.

RUTHERFORD COUNTY.

The Rutherford County Medical Society held its recent meeting in the office of Dr. E. H. Jones, of Murfreesboro. President R. W. Read presided. The following members were in attendance: Drs. M. B. Murfree, V. S. Campbell, S. C. Grigg, J. A. Scott, R. W. Read, E. H. Jones, A. E. Goodloe, W. C. Bilbro and A. J. Jamison, all of Murfreesboro; Dr. Rufus Pitts, Route 3, of Murfreesboro, and Dr. J. C. Overall, of Lascassas.

The following papers were presented:

"Endometritis," by Dr. E. H. Jones.

"Bradycardia," by Dr. W. C. Bilbro.

Some very interesting cases were reported by Drs. M. B. Murfree and E. H. Jones, which were well discussed by all present.

Dr. E. O. Jenkins was elected to membership in the society at this meeting.

Announcement was made that each member could get a copy of the transactions of the State Society for 1911-12 at the office of Dr. W. C. Bilbro, Treasurer.

The meeting then adjourned.

RUFUS PITTS, M. D., *Secretary*.

WASHINGTON COUNTY.

The Johnson City and Washington County Medical Society met in Dr. Cox's office, Thursday evening, October 3rd, in its regular monthly session. The members in attendance were as follows: Drs. Randall, Sells, Cease, Carroll, H. D. Miller, Matthews, Broyles and West, of Johnson City, and Dr. Dulancy, of Jonesboro. Visiting: Dr. Yancy, agent of the State Hookworm Commission.

Dr. Dulancy read a most interesting paper on

"The Complications of the Pregnant State," which was well discussed by all present.

The society then gave the remaining time to Dr. Yancy, of Hookworm fame, to explain his mission and the work in this line as a humanitarian sent out by the State Board of Health for the benefit of the people of each county. Three months of his time is allotted to each county to investigate all cases of intestinal parasites referred to him, free, and make reports on same. He is to give instructions to the public regarding the protection against such invasions. The society by resolution, voted for two physicians to go before the County Court and ask for aid in furthering this cause so as to make more effective the work by a public laboratory for these investigations. This was unanimously carried and Drs. Dulancy and Arnold were assigned the duty. This course has been followed by Carter and Johnson counties, which voted aid to these investigations and they claim they have been well paid for the amount expended in the effectual eradication of the hookworm and other intestinal parasites, and in view of the important education it gives to the laity, feel that it has been a great schooling to them.

The society extended a vote of thanks to Dr. Yancy for his talk and work. Dr. Cox was ill at home at the time of this meeting and was unable to attend. We are pleased to report the doctor is out now and able to attend to business.

The East Tennessee Medical Society meets in Johnson City, October 10th and 11th, and a large attendance is expected.

C. J. BROYLES, M. D., *Ass't. Sec.*

ROBERTSON COUNTY.

At the recent meeting of the Robertson County Medical Society, which was well attended, much interest was occasioned by the report of the committee on fees, consisting of Drs. W. W. Porter, D. W. Ramer, and T. L. Johnson. This scale was recommended for adoption and will likely be passed at the next meeting of the society.

To the Robertson County Medical Society and the medical profession of Robertson County:

We, your committee, beg leave to make the following scale of fees for the medical profession of Robertson County, as follows:

- (a) Ordinary visit\$2.00 and up
- (b) Night visit\$3.00 and up
- (c) Prescription\$1.00 and up
- (d) Consultation fee\$5.00 to \$10.00
- (e) Call visit\$1.00 to \$2.00
- (f) Lancing felon, ordinary use of lancet.\$1.00 to \$2.00
- (g) Giving an anesthetic\$5.00

OBSTETRICS.

- (a) Ordinary labor\$15.00
- (b) Delivering placenta after child is born..\$5 to \$10
- (c) Managing a case of abortion.....\$15 to \$25
- (d) Curettage of the uterus.....\$25 to \$50
- (e) Turning and delivering from any cause.\$15 to \$25
- (f) Using obstetric forceps\$25 to \$50
- (g) Craniotomy\$25 to \$50

FRACTURES.

- (a) Metacarpus and phalanges\$2 50 to \$5
- (b) Ulna, shaft\$10 to \$15

- (c) Radius, shaft\$10 to \$15
- (d) Radius and ulna, shafts\$15 to \$25
- (e) Humerus, shaft\$25 to \$35
- (f) Colle's Fracture\$15 to \$25
- (g) Clavicle\$20 to \$25
- (h) Ribs\$ 5 to \$10
- (i) Femur\$50 to \$150
- (j) Patella\$10 to \$15
- (k) Tibia, shaft\$20 to \$30
- (l) Fibula, shaft\$20 to \$30
- (m) Tibia and fibula\$25 to \$75

DISLOCATIONS.

- (a) Metacarpo-Phalangeal\$5 to \$10
- (b) Ulna, upper and lower ends.....\$10 to \$15
- (c) Head of radius\$10 to \$15
- (d) Elbow\$15 to \$25
- (e) Shoulder\$25 to \$50
- (f) Patella\$10 to \$15
- (g) Knee\$25 to \$50
- (h) Lower jaw\$ 5 to \$10
- (i) Clavicle\$10 to \$25
- (j) Hip\$50 to \$75

B. F. FYKE, M. D., *Secretary.*

BOOKS RECEIVED.

THE PRINCIPLES OF HUMAN PHYSIOLOGY. By Ernest Henry Starling, M.D. (London), F.R.C.P., F.R.S., Jodrell Professor of Physiology in University College, London. Octavo, 1423 pages, with 564 illustrations, some in color. Cloth, \$5 net. Lea & Febiger, Philadelphia and New York, 1912.

A TREATISE ON DISEASES OF THE HAIR. By George Thomas Jackson, M.D., Professor of Dermatology in the College of Physicians and Surgeons, Medical Department of Columbia University; and Charles Wood McMurtry, M.D., Instructor in Dermatology in the College of Physicians and Surgeons, Medical Department of Columbia University, New York. Octavo, 366 pages, with 109 engravings and 10 colored plates. Cloth, \$3.75, net. Lea & Febiger, Philadelphia and New York, 1912.

ELEMENTARY BACTERIOLOGICAL AND PROTOZOOLOGY: THE MICROBIOLOGICAL CAUSES OF THE INFECTIOUS DISEASES. By Herbert Fox, M.D., Director of the William Pepper Laboratory of Clinical Medicine in the University of Pennsylvania. 12mo, 237 pages, with 67 engravings and 5 colored plates. Cloth, \$1.75 net. Lea & Febiger, Philadelphia and New York, 1912.

THE BLOOD OF THE FATHERS—A PLAY IN FOUR ACTS. By G. Frank Lydston. The Riverton Press, Chicago.

MORTALITY STATISTICS, 1909. Tenth annual report with revised rates for the intercensal years 1901 to 1909, based upon the census of 1910. Department of Commerce and Labor, Bureau of the Census, E. Dana Durand, Director. Washington Government Printing Office, Washington, D. C.

THE JOURNAL

OF THE

TENNESSEE STATE MEDICAL ASSOCIATION

DEVOTED TO THE INTERESTS OF THE MEDICAL PROFESSION OF TENNESSEE

ISSUED MONTHLY, under Direction of the Trustees

PERRY BROMBERG, M.D., Editor and Sec'y
A. B. COOKE, M.D., Associate Editor

OFFICE OF PUBLICATION: Jackson Building, NASHVILLE, TENNESSEE

VOLUME V.

NASHVILLE, TENNESSEE, NOVEMBER, 1912.

NUMBER 7.

THE OCULAR MANIFESTATIONS OF GENERAL DISEASES.*

BY HILLIARD WOOD, M. D.,

Nashville.

Professor of Ophthalmology, Otology and Rhinology, Vanderbilt University.

Permit me at this time to express to you my appreciation of the honor you have conferred upon me by selecting me as your presiding officer.

In choosing a subject for this address I have decided to depart from the time-honored custom of discussing the present state of medicine in general and of this society in particular, and to present to you a paper dealing with the intimate connection between diseases of the eye and diseases elsewhere in the body. I have, therefore, selected as the subject of this address, "The Ocular Manifestations of General Diseases." These manifestations are of interest alike to the general practitioner and to the ophthalmic surgeon. In the limits of one brief paper it is, of course, impossible to discuss the ocular manifestations of all diseases, so that only the more common conditions producing eye symptoms will be mentioned. Among these we have:

Tumors of the brain, which may cause exophthalmus, spasm and paralysis of the extra-ocular muscles, and choked disc. Exophthalmus, which may be either unilateral or bilateral, may be the result of a tumor situated about the base of the brain and pressing upon the cavernous sinus or ophthalmic vein.

Muscular spasm, due to the first or irritative

effects of the growing tumor upon the motor nerve trunks or nerve nuclei, is seen. This spasm is later followed by paralysis of the irritated nerve; or the paralysis may occur without being preceded by spasm.

The most characteristic ocular manifestation of brain tumor is choked disc. This consists of an oedema of the intra-ocular end, or head, of the optic nerve. The disc is swollen, projects forward, being from 3 to 5 dioptries hypermetropic as compared with the rest of the fundus. The outlines of the nerve head are blurred and indistinct, the arteries tortuous, the veins enlarged, and there are often hemorrhages about the papilla. Vision may be impaired in various degrees and the field of vision changed, there being central or peripheral scotomata. Often, however, the impairment of vision and the visible changes in the nerve are out of proportion to each other. If the life of the patient is prolonged this choked disc may terminate in atrophy, which may be either partial or complete.

Choked disc occurs in over 66 per cent of cases of brain tumor, but may not develop until late in the disease. It may be unilateral or bilateral, and may be worse on one side than the other. It results from tumors located in any part of the brain, but is more common in cerebellar tumors than in those of the frontal lobes. It may result from conditions other than tumor, such as cerebral abscess, hemorrhage, or in rare cases, meningitis. While choked disc is the most important single sign of brain tumor, it must be considered in connection with other symptoms, such as headache, somnolence, mental dullness, slow pulse and vomiting. Choked disc does not determine the character or location of the tumor. The location must be decided by other symptoms,

*President's address before Upper Cumberland Medical Society, May, 1912.

and the character of the growth is even more difficult to settle.

Meningitis in its various forms may produce important eye symptoms. These will vary according as the meningitis is cortical or basilar. In cortical meningitis the ocular muscles may, in the early stages, have conjugate spasm followed by paralysis; and there may be homonymous hemianopsia, or total blindness, with intact pupillary reaction, and without ophthalmoscopic findings. The distinguishing characteristics of ocular changes in cortical meningitis is that they are conjugate.

Disturbances of vision are, however, far more frequent in cases of basilar meningitis. These are usually paralysis of the motor nerves of the eye, such as the motor oculi, the patheticus, the abducens and the facial; optic neuritis, followed by atrophy, usually complete; and a low grade of purulent choroiditis.

The paralysis of the motor nerves are due to inflammation along their course at the base of the brain. Being peripheral they may involve the nerves of only one eye, or only one of the nerves of that eye. They are not conjugate. The abducens, because of its long course, is the more often involved. The paralysis may involve the motor nerves of either one eye or both, and various combinations may occur.

The nerves of special sense, especially the optic and the auditory, are often implicated. The optic is the more frequently involved. The optic nerves, chiasm and tracts are often embedded in the inflammatory exudate. We then have optic neuritis, which may be unilateral or bilateral,—more often the latter. Optic neuritis is one of the most important aids in the diagnosis of meningitis. The nerve head is red, swollen and its outlines blurred. The vessels on the disc are enlarged and hemorrhages are frequent. Vision shows many changes, both central and peripheral scotomata occur; color changes are present, and the acuity of vision is much reduced. This neuritis, in case the patient survives, is followed by atrophy and vision is lost. The nerve head is pale, white, contracted; the outlines again become distinct and the vessels contracted, many of the smaller vessels becoming invisible.

A low grade of purulent choroiditis may complicate, or follow, meningitis. The inflamma-

tion may extend from the brain, or the meninges and choroid may be simultaneously infected. It begins with the symptoms of purulent irido-choroiditis, the vitreous becoming cloudy with the inflammatory exudate, so that the details of the fundus are indistinctly seen. If this condition occurs in children, as it usually does, it may stimulate retinal glioma in its early stage. A differential diagnosis may require care, especially where the history of meningitis is not well established. In case of doubt, safety requires the early enucleation of the eye. It is claimed by Knies that this form of choroiditis is usually unilateral, but I have seen a rather large number of them and have generally found them bilateral. Some slight degree of vision may be preserved, but blindness is usually total and permanent. This is a more common source of blindness than is usually supposed.

Tabes dorsalis has important eye symptoms, one of the first—often the first—symptom of tabes being gray atrophy of the optic nerve. This atrophy is not preceded by any evidence of inflammation and is, hence, called primary atrophy. It is seen first in a change of color of the outer part of the disc, which becomes pale and shrunken. Later the entire nerve head is involved. Visual impairment, consisting of a reduction of the light sense and contraction of the visual field, especially for colors, occurs, followed later—sometimes years later—by blindness. According to various observers, optic atrophy occurs in from 20 per cent to 35 per cent of all cases of tabes. On the other hand it is claimed that from two-thirds to three-fourths of all cases of optic atrophy are tabetic in origin. It is thus seen that between tabes and optic atrophy there is a close relation, and as this atrophy is one of the earliest symptoms to develop, at times preceding by years the other symptoms; its importance, both in diagnosis and prognosis, is evident.

Muscular paralysis, involving both the extra- and intra-ocular muscles, are among the most common and most characteristic symptoms of tabes. These paralyzes are often nuclear in origin. The defects are not conjugate. Any muscle of one eye, or any combination of muscles may be involved; or the paralysis may be bilateral, but dissimilar upon the two sides. The paralysis often comes on rapidly and after a time may as rapidly disappear; so that rapidly develop-

ing and disappearing paralysis, especially when they recur, strongly suggest tabes.

The intra-ocular muscles are variously affected. There may be cyclopegia, with or without mydriasis. Myosis may be present; or, as in a case I recently examined, cyclopegia and mydriasis in one eye and myosis in the other. One of the most characteristic symptoms of tabes is the Argyll-Robertson pupil, i. e. a pupil that will not dilate in the dark or contract in the light, but will dilate when the ocular axes are parallel, as in looking at a distance, and contract when the ocular axes are convergent, as in looking at near objects. This symptom may precede by months or years other ataxic symptoms, such as the tottering gait when the eyes are closed. Its importance, therefore, is evident, especially in doubtful cases.

Pellagra, now attracting such wide attention, has few eye symptoms, the most characteristic being night blindness due to torpor of the retina, caused by general malnutrition. Congestion and pallor of the optic nerve have each been found, and occasionally, optic atrophy.

Malaria causes neuralgia about the eye, especially of the supra-orbital nerve, and this may have a marked periodicity. Conjunctivitis is an occasional result, and the proof of its origin is shown by the relief afforded by the administration of quinine. A superficial branched ulceration of the cornea, known as dendritic keratitis, and accompanied by tenderness of the supra-orbital nerve, has been shown by Kipp to be due to malaria in nine cases out of ten, and is relieved by the internal administration of quinine.

Malaria also causes changes about the fundus, especially retinitis and neuro-retinitis. I have seen one or two cases of this kind in which the retinitis resembled renal retinitis and was benefited by anti-malarial treatment, especially Fowler's solution of arsenic. Loss of vision due to malaria should not be confused with blindness caused by quinine administered for its relief. In quinine amblyopia there is a history of large doses of quinine with marked contraction of the retinal arteries.

Exophthalmic goitre is characterized by the four well known symptoms of thyroid enlargement, tachycardia, exophthalmus and nervous tremor. The exophthalmus is usually bilateral,

rarely unilateral, or may differ in degree upon the two sides. It may be slight, or absent, or developed out of proportion to the other symptoms. It is due to congestion, oedema and increase of the orbital tissues. It is associated with irritation of the sympathetic and spasm of Mueller's muscle which elevates the upper lid; so that when the eye looks down, the upper lid lags behind, showing the white sclera above the cornea, thus producing Graefe's sign. The sensibility of the cornea may also become impaired as shown by reduced frequency in winking, this being Stellwag's sign. The muscular tremor, so prominent in Basedow's disease, may affect the eyelids, or the ocular muscles may become involved, giving rise to nystagmus.

Syphilis, indirectly and directly too, is responsible for many diseases of the eye. We may first consider the manifestations of acquired syphilis. Chancres have been found upon the eyelid, presenting the chronic course and indurated base of the Hunterian chancre and being followed in due time by the usual secondaries of syphilis. Their location varies. Most often they are at the inner canthus, on the caruncle, but may be found on the margin of the lower lid, the palpebral conjunctiva, and less frequently on the bulbar conjunctiva or the cornea. These chancres have to be differentiated from epithelioma. This is done by the age of the patient, the microscopical findings, the Wasserman reaction and subsequent developments.

Secondary eruptions may affect the skin of the lids and be associated with loss of the eye lashes. Erythema or condyloma involving the conjunctiva occur, but are rare. Among the earliest, and by far the most frequent ocular manifestations of secondary syphilis is a form of plastic iritis occurring first in one eye and later on in the other. This iritis may precede, accompany or follow the secondary eruption. This specific iritis is accompanied by the usual signs and irritative symptoms of plastic iritis and there is nothing about the iritis per se to indicate a leucic origin except the development of condyloma or gunnata in the form of small yellow nodules situated near the pupillary margin and present in about fifteen per cent of the cases of specific iritis. The diagnosis of the syphilitic origin is made by the evidences of secondary syphilis, the involvement of one iris after the oth-

er and the occasional presence of gumma of the iris.

Later on in the secondary stage, inflammations and degenerations occur over the fundus, presenting various forms of choroiditis, retinitis and vitreous opacities. These local conditions are diagnosed only by the ophthalmoscope, and their syphilitic origin is at times easily determined, and at other times made out with great difficulty.

In the late secondary, or early in the tertiary stage, optic neuritis occurs, followed by atrophy, partial or total, often the latter.

I have also seen homonymous hemianopia in tertiary syphilis, without ophthalmoscopic findings, due presumably to a gumma involving the left optic tract, and which promptly and fully recovered under vigorous anti-syphilitic treatment. In the tertiary stage occur also paralysis of the various motor nerves of the eye. In these paralyzes the lesion, or gumma, may be located in the nerve trunk, the nuclei of origin or the higher cortical centres. Thus various forms of ocular paralysis may occur. They may respond to anti-syphilitic treatment, but relapses are frequent.

In congenital syphilis we have the various manifestations, and occurring in the same stages, as in acquired syphilis. It is, however, in the cornea that the most common and most characteristic ocular manifestation of hereditary syphilis occurs in the form of a chronic, vascular keratitis involving the central and posterior layers of the cornea. This deep, diffuse, or syphilitic keratitis occurs usually between the sixth and twelfth years, rarely as early as the second or as late as the twentieth year. It affects both corneae and is associated with the usual evidences of congenital syphilis, such as a peculiar formation of the face and cranium, Hutchinson's teeth, cicatrices at the angle of the mouth, enlarged lymph glands, swelling of the periosteum, especially over the tibia, impaired hearing, and the history of the early death of the products of conception in the mother. Another manifestation of congenital syphilis in children is stricture of the nasal duct with mucocoele, due often to nasal pathology extending up the tear duct.

Rheumatism, both acute and chronic, more especially the latter, may have as ocular manifestations iritis and cyclitis, scleritis and episcleritis, ocular palsies due to involvement of the motor nerves, and embolism of the central artery of the

retina caused by rheumatic endocarditis. The most usual form of iritis is a uniocular relapsing plastic iritis, but occasionally binocular serous irido-cyclitis occurs. These ocular manifestations may precede, accompany or follow other rheumatic symptoms. In this connection may be mentioned lagophthalmus due to paralysis of the facial nerve of rheumatic origin. When the rheumatism is gonorrhoeal in origin the iritis is plastic and often bilateral.

Tuberculosis: Both chronic tuberculosis and especially acute miliary tuberculosis with meningeal involvement, may be associated with tuberculous choroiditis, the tubercles in the choroid being in the form of minute deposits diffusely scattered over the choroid. Tuberculous choroiditis is most often associated with tuberculous meningitis, but may occur without meningeal involvement. Tuberculous disease of the lids in the form of lupus, usually associated with lupus elsewhere about the face, is sometimes seen. Akin to tuberculosis and often merged with it is scrofula, which causes, especially in children, the well known forms of marginal blepharitis and phlyctenular inflammation of the conjunctiva and cornea.

Diabetes causes cataract, which is usually binocular and matures rapidly. I have also seen in diabetics great reduction in vision, without ophthalmoscopic changes, due presumably to retro-bulbar neuritis, and which was practically restored to normal by suitable treatment, especially the regulation of diet.

Diphtheria may occur in the eye in the well known form of diphtheritic conjunctivitis, followed by destruction of the cornea. Formerly this condition usually caused blindness, but it is now easily controlled by anti-toxin. Post-diphtheritic paralysis of the extra- and intra-ocular muscles, especially the latter, are common and come on from four to eight weeks after the throat disease. They may be associated with paralysis of the soft palate and subside in a few weeks, with or without treatment.

Scarlet fever may be associated with a conjunctivitis, either catarrhal, purulent or membranous. Sudden and total blindness may occur, lasting for a day or two and followed by a return of vision. This is believed to be due to suppression of urine and uremic poisoning, and may be associated with other uremic symptoms, as headache, stupor, coma, etc. More often we

have the typical picture of albuminuric retinitis due to scarlatinal nephritis.

Measles is most often followed by a catarrhal conjunctivitis, mild in degree, but obstinate in its course. Small, painful ulcerations of the cornea may develop.

Pyemia may cause loss of vision by the septic emboli lodging in the intra-ocular vessels and setting up a purulent choroiditis, followed by panophthalmitis. I have seen this occur in puerperal fever, and both eyes may be involved.

Nephritis is often associated with the well known forms of albuminuric neuro-retinitis. Any form of nephritis, acute or chronic, including scarlatinal nephritis and the nephritis of pregnancy, may act as a cause, but the contracted kidney of chronic interstitial nephritis is the most common cause. The retinal changes consist of minute white points, due to fatty degeneration, located around the macula or the disc; hemorrhages about the disc; cork-screw arteries, especially about the yellow spot; and the usual signs of optic neuritis. These fundus changes occurring in nephritis are of evil prognostic import, as few patients live two years after the development of the ocular changes and most of them succumb within the first twelve months. In the renal retinitis of pregnancy the prognosis is more favorable, and the more so the later in gestation the renal and retinal symptoms develop. It is interesting to note that the ocular changes may precede the appearance of albumin and casts in the urine, and this fact has given rise to the idea that the neuroretinitis is not due to the nephritis, but that the neuroretinitis and nephritis are alike due to the underlying condition of arteriosclerosis. Many cases of Bright's disease have been diagnosed by the ophthalmoscope, the patients having been treated for indigestion, liver trouble, etc.

Whooping cough, on account of the severe paroxysms and congestion about the head, gives rise to hemorrhages in any of the vascular tissues of the eye. The conjunctiva is the most frequent site, and only recently I saw a child whose ocular conjunctiva was apoplectic from this cause.

In this connection may be mentioned the ocular symptoms met with in certain forms of poisoning, especially those due to lead, alcohol and

tobacco. All of these cause various forms of optic neuritis.

In *lead poisoning* there may be neuritis followed by optic atrophy or the atrophy may be primary. The optic disc becomes pale and white and the retinal arteries contracted. There is nothing, however, about the ophthalmoscopic findings characteristic and the diagnosis of lead as the cause must be made from the other symptoms of lead poisoning.

Alcohol, especially wood alcohol, causes optic neuritis, followed by partial or total atrophy and a corresponding reduction in vision. The literature is replete with reports of cases of blindness caused by wood alcohol. I have myself seen four ounces of wood alcohol produce total blindness within thirty-six hours. The vision partially returned, but optic atrophy followed and the patient was left with about one-third of the normal vision.

Tobacco is a frequent cause of impaired vision due to retro-bulbar axial optic neuritis. This may be caused by either smoking or chewing. It would appear that the resistance to nicotine diminishes with age as most of these cases occur past middle life. The vision fails gradually, without other ocular symptoms. The ophthalmoscopic findings are negative, but a central scotoma for red is present, showing the involvement of the papillo-macula fibres. The real cause is at times suggested by the breath of the patient. The prognosis in the early stage is good if tobacco is eliminated.

First National Bank Building.

PRESENT STATUS OF BRAIN SURGERY.*

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Operations upon the skull are, in all probability, the oldest of all major operations.

There is no evidence that abdominal surgery was, or was not, practiced by the earliest races, but there is evidence abundant to show that trephining was practiced in the most remote times as is evidenced by numerous collections of skulls of prehistoric races.

*Read before Tennessee State Medical Association April, 1912.

This was considered an old operation even by Hippocrates, still he did not dream that it antedated all written history, and that it was practiced by people whose history was lost in the remotest antiquity.

The indications for this operation, as well as the technique of its performance, was described by medieval authors both medical and secular.

Balzac, in his work upon Catherine de Medici, describes Ambrose Pare as experimenting on trephining a fresh skull when he was contemplating doing a mastoid operation upon King Francis the II. Catherine, however, desiring the destruction of her son, interposed objection to having his head bored into like it was a block of wood.

Brain surgery, like all other surgery, has been completely revolutionized since the dawn of the antiseptic surgical era. Up until this time there had been very little progress made in this line of work, save in the perfection, or rather the evolution, of instruments. From the primitive stone implements of prehistoric times to the modern trephine, and its different modifications, was one long step of advancement.

Then when Wagner made his osteo-plastic flap for the purpose of exposing large areas of the brain another long step was taken in the development of this branch of surgery.

Cerebral localization was the next step in the progress of this line of work. When it was proved by Broca, of France, Goltz and Heitzig, of Germany, and Ferrier and Horsely, of England, that certain well-defined areas of the cortex of the brain presided over certain definite functions, a great impetus was given to brain surgery.

Up until this time the use of the trephine was limited, very largely, to the treatment of depressed fractures and possibly for occasional exploration in certain cases of epilepsy.

Since that time surgeons have not hesitated to explore the cranial cavity for a variety of pathological lesions.

Cerebral localization enables us to locate, to a practical certainty, diseased conditions within the cranial cavity and to, in many cases, successfully remove them.

The cranial cavity may well be considered to contain the great dynamo of the economy. The central telephone system through which must pass all motor and sensory impulses in their distribution to the remote parts of the human body.

It presides over all functions physical, psychical, and we might say, moral.

When there is any disturbance of the interrelationship of the different portions of this wonderful aggregation of machinery, there will surely follow some disturbance of function, in some organ or part, it may be remote from the center of disturbance.

If certain parts be affected it will be manifested in some disturbance of motor function. If other parts be disarranged it will manifest itself in nervous explosions like epilepsy and acute maniacal manifestations.

Again as a result of other disturbance of this interrelationship physical perversions will supervene in the form of some variety of insanity such as melancholia, mania and dementia.

Notwithstanding nature has placed these important structures in the most protected part of the anatomy, and surrounded them with the solid bony walls of the cranium, where great force is required to produce serious injury, surgeons of the present day do not hesitate to expose to view the different portions of the cortex, and to invade their most sacred precincts.

For years foreign bodies, abscess, and tumor formations have been successfully removed from the vertex and cortical areas, but the deeper portions, especially the base, were considered as secret and unapproachable.

Then came the operation of Rose and Hartley for the removal of an important structure at the very base of the brain.

The operation for the removal of the Gasserian ganglion for the cure of tic douloureux has proved a boon to a class of sufferers who were doomed to a life of the most agonizing pain it is possible for the human economy to suffer. For a long time this operation was rarely resorted to and then was accompanied by a high mortality. Under the present osteoplastic flap method of operating, the procedure has become one of comparative safety, so that the sufferer from persistent trigeminal neuralgia, who fails to get relief from more conservative methods, may be promised relief by submitting to this operation which has not a very high mortality in the hands of the expert brain surgeon.

When it comes to exploring the subtentorial region, that part of the cranial cavity in which is placed the most delicate and vital parts of this

wonderful mechanism, we may well feel that we are flirting with death itself. When by a single misstep, or tremor of the hand, or the slightest error on the part of the surgeon an irreparable injury may be done to the holy of holies, the floor of the fourth ventricle, which will in the twinkling of an eye like an electric flash, forever put out of commission this vital human dynamo.

When it comes to exploring this region it requires skill and courage combined. Still our present day surgeons do not hesitate to attempt to remove tumor growths from the lobes of the cerebellum, and from the cerebello-pontine angle, and success frequently attends their effort.

One of the latest achievements of brain surgery is the successful removal of the hypophysis, or pituitary body, for the relief of that once obscure, and still rare, affection, acromegaly.

This operation has now become a well recognized procedure and its removal is successfully accomplished in a majority of cases.

However, because of the anatomical obstacles to its removal, and the rarity of the condition, this operation will only be done by those especially trained in this line of work.

Other lesions for which operative procedures are now being adopted, are fractures of the base of the skull, and cerebral hemorrhages and for certain mental and moral perversions following injuries which may, or may not, be accompanied with other cerebral disturbances.

In fractures of the base when there is increased intracranial pressure which is progressive, it is good practice to do some decompressive operation. These are desperate cases and anything of a surgical nature which, not only offers a hope of lowering the mortality, but of lessening the morbidity, should be resorted to and that without delay.

Trephining and exploration have been successfully practiced in some cases of cerebral hemorrhage. In searching the literature upon this subject I have been unable to find very many recorded cases, but do find enough to satisfy me that it is a perfectly rational and legitimate procedure in certain cases.

Like all other conditions which produce sufficient intracranial pressure to produce profound functional disturbance and structural changes, it should be resorted to early to be successful.

The necessity for surgical intervention in cases

where gross pathological lesions such as epidural and subdural hemorrhages, depressed fractures, tumors and abscesses exist is well recognized by the whole profession, and is practiced by all who devote much time and attention to surgery. These conditions produce definite symptoms which through our knowledge of cerebral localization we are enabled to locate and remove.

The motor areas of the brain have been successfully mapped out, and the centers which preside over the special senses have been rather well located. The centers which preside over the mental and moral faculties have never, as yet been definitely settled upon.

Whether there be well-defined centers, or portions of the brain, which preside over these functions we are unable to say but it is reasonable to suppose that there are such centers.

We know that certain disturbances of the cerebral centers produce mental aberrations, and different forms of insanity, then why not disturbance of other relations produce moral perversions and criminal tendencies?

We have all seen individuals with one faculty apparently developed at the expense of all others. One will develop a marked aptitude for music, or mathematics, and be absolutely unable to comprehend any other proposition. We have different kinds of monomaniacs, the kleptomaniac, dipsomaniac and nymphomaniac then why not perversions of other faculties?

If these uncontrollable tendencies exist and we know that they do then why not uncontrollable tendencies to criminal actions.

For this class of cases, so far, surgery has been unable to offer very much. But I am convinced that there are cases where surgical procedures are justifiable, and that the future will grant a place to operations of this kind.

Especially do I believe that where mental and moral perversions follow injury, that we are justifiable in doing what we can for them, and that there is hope for a certain number of these unfortunate individuals. When epilepsy or motor disturbance follows in the wake of injuries we do not hesitate to adopt surgical procedures for its relief, then why not offer the same hope to the unfortunate individual who develops mental aberrations and criminal tendencies whether there be any other apparent disturbance or not.

It was to emphasize this branch of brain sur-

gery that I decided to prepare a paper upon this subject and to report two cases which have come under my observation one of which had marked mental deterioration and the other had developed decided criminal tendencies.

CASE I.

Minnie P., white, aged 21, with family history negative. At the age of fourteen was struck on the head by her sister with a stick of stove wood which rendered her unconscious for a few minutes but produced no scalp injuries. She experienced no further bad effects for some time. In the course of a few months she developed what was supposed to be epilepsy the seizures being, at first, several months apart but gradually increased in frequency.

When she was about eighteen she married but had no children and did not live with her husband but for a short time.

The attacks gradually grew worse or rather more frequent, and her mind became affected so that she eventually became, practically a mental blank with three or four seizures a day.

I was called ten miles in the country to operate upon her having been advised of her condition before my arrival.

Upon my arrival at the house I was told that she was having one of her "spells" then, but when I went in I found her, not with an epileptic seizure, but what seemed to be, just some nervous explosion like hysteria. Her physician said that he had never seen her with one of her convulsions, consequently, could not say whether she had genuine epilepsy or not but it had been so reported to him.

Upon examination I found a poorly nourished anaemic girl who was writhing and moaning upon the bed apparently unconscious of her surroundings. She finally grew quiet and sat up with her hands clasped in an attitude of deep dejection with an almost, idiotic look upon her face and could not give intelligent answers to any question asked.

The head was shaved and further examination made to, if possible, locate the point of injury, but there were no scars, nor depressions, anywhere to be seen. However by tapping and by making pressure over the scalp, I found one point which seemed to give her pain as she would cry

out and become very much disturbed when this point was tapped or pressed upon.

Chloroform was administered and an extensive horse-shoe flap was turned down consisting of scalp and periosteum so that a large area of bone was exposed for examination. There were no evidences of fracture, nor depression of any kind, save, possibly a slight degree of flattening over the tender area of the skull which point was selected for making my opening.

A three-quarter inch button of bone was removed from the anterior superior angle of the left parietal bone. The skull proved to be of unusual thickness and when the button was removed it showed one-half of the inner table very much depressed and adherent to the dura.

Another opening the same size was made one and one-half inches posterior to this and the same condition found to exist. The intervening bone was removed with rongeur forceps a small probe passed around between the dura and the skull and the dura found to be densely adherent for some distance below and posterior to the openings. The opening was enlarged with biting forceps until a point was reached where the dura was not adherent and the scalp wound closed with interrupted silk worm gut sutures and small wick drains at the angles of the wound to prevent a haematoma.

She was out of bed on the third day and the stitches were removed on the sixth day her recovery being uneventful.

I saw her nine months after the operation and must say that I have never seen so complete a change in any one's appearance as in her's. She had gained 18 pounds in weight, had a good color lips and cheeks red, her face bright and intelligent looking, and had not had the slightest evidence of a return of her old trouble and had but a very dim recollection of the operation or things prior to that time.

The most remarkable thing about the case was the marked mental improvement. From an hysterical, demented, imbecile to a bright healthy looking girl was a change almost unbelievable.

I had this letter from her physician since writing this paper in which he says:

"Dear Doctor: In regard to the Perry girl I will say that she is in perfect health and has never had the least trouble since her operation and I consider her permanently cured."

This operation was done four years ago and I hardly think it probable that she will develop the same condition again.

CASE II.

Joe M., white, aged twenty-one, family history negative, was admitted to the Lincoln Memorial Hospital, November 7, 1911, with the following history:

When between six and seven years of age he fell from a rock wall striking his head upon a concrete pavement which rendered him unconscious for about three hours leaving apparently no bad results for some time.

A few weeks following this injury he began to suffer with severe headaches which gradually became almost constant, but worse at times.

Up until the time of his injury he presented no evidence of any mental deficiency, being as bright as the average child of his age. After this time he was kept in the public schools of the city for five years and was never able to learn even his letters and of course could not read nor spell. In fact he seemed utterly unable to learn anything and suffered constantly with his head.

The teachers finally advised his parents to keep him at home as they found it impossible to teach him anything. The only work he ever seemed to learn to do with any degree of skill was painting which he followed more or less constantly for some time.

When about nineteen years of age he began having some kind of spells which were called fits but from the best description I could get they were not genuine epilepsy but attacks of delirium accompanied with violent headache.

I saw him first August 6, 1911, when I found him suffering with one of his periodical headaches. His suffering was so great that it took large doses of bromides to quiet him. His pulse full and slow, temperature and respiration normal. Face and mucous membranes were pale indicating quite a degree of anaemia but no blood examination was made to determine the percentage of haemoglobin.

Upon questioning his parents I learned that there had been attacks of aphasia however this was not clear. I found further that there were words which he could not articulate distinctly and was told that when he was mad or excited that he could scarcely talk at all. That he had

grown quite irritable and his mother stated that at times she was afraid of him.

I saw him several times between this and the time he entered the hospital and made careful observations of his condition.

I found that, while he did not know a letter in the book, he could write anything you would spell for him but had no idea of what he was writing. He could write his name apparently automatically but could not write another word without some one spelling it for him. Neither could he call the months of the year but could tell when his birthday came but said he only knew because his mother told him.

He could converse in an intelligent manner and you would never suspect that there was anything wrong with him from his conversation. He had a careworn expression upon his face and gave you the impression that he was not well.

I found upon further questioning that he had developed some criminal tendencies and had given his father quite a little trouble during the last year.

He had developed a mania for forging checks and orders upon different people but chiefly his father. His associates would get him to forge an order upon some one by spelling the words for him as he could not spell them himself. He would then take the check, or order, to some grocery store and get it cashed and divide the money with his accomplice.

Being a painter he would forge an order on some one for paint and would then take it to some one else and sell it never seeming to have the least idea of its worth. He was never known to steal but would sell anything he could get in his possession.

Neither would he try to conceal nor deny his actions and when asked why he did it would say that he did not know but that he could not help it and would seem very much distressed because of his actions but would go out and do the same thing again before night if not watched and was usually in the lock up if his father did not happen to be able to pay him out.

I expressed the opinion to his parents that an operation would possibly give him relief and advised a decompressive operation believing it would give him some relief at least from his violent and persistent headaches but could make

them no promise as to the ultimate result from such an operation.

His condition gradually became more distressing every way and he began to beg for something to be done for him. And was willing and anxious to go to the hospital.

He was presented to the Knox County Medical Society and numerous opinions were expressed as to his condition. Some thought him merely a degenerate, others a common criminal and thought he should be in the penitentiary, while others with myself thought an operation justifiable.

The operation was done before the senior class and some of the faculty of the Medical Department of the Lincoln Memorial University, November 9, 1911.

A large horse-shoe shaped incision was made beginning at the external angular process of the left frontal bone and extending upward to near the median line then downward and backward to terminate above and behind the mastoid process. The scalp with the periosteum were dissected loose and turned down over the ear exposing a large area of bone for examination but no evidence of fracture was revealed.

After controlling hemorrhage a large trephine opening was made over the posterior and upper portion of the parietal bone on the left side.

The skull was of ordinary thickness but very hard to cut through with the trephine. When the button was removed the dura was seen to bulge into the opening even with the outer table of the skull. The most careful inspection and palpation failed to reveal the slightest evidence of pulsation.

Another button was removed from the posterior portion of the bone so that when the intervening bone was removed the opening was about four inches anteroposteriorly. Upon passing a small probe between the dura and the bone it was found to be densely adherent downward into the temporal region. The bone was further removed with rongeur forceps until a point was reached where there were no adhesions making the opening in the skull about two by four inches.

When this amount of bone had been removed pulsation could be distinctly seen and felt so it was not deemed necessary to make the opening larger.

The dura was not incised but had been cut

through in removing the first button of bone for a distance of about three-fourths of an inch.

This was closed with only one stitch and a strand or two of gut passed through the slit for drainage. The scalp was then closed in the usual manner with a small wick of gauze left at each angle of the wound for drainage and to prevent hematoma.

The drainage was quite profuse for several days. He suffered some for the first forty-eight hours but not enough to require a sedative. The stitches were removed on the sixth day and he went home on the seventh but returned to the hospital on the tenth and twelfth for dressings at which time the wound had entirely healed.

Present condition now five months after the operation.

Has gained twenty pounds in weight, anaemia relieved, has good color, and very much improved in every way physically.

Has not had the headache since leaving the hospital and has had none of his spells which had been diagnosed epileptic and which may have been but that is doubtful.

His parents say that he has shown no tendency to get into trouble and does not seem like the same boy. That he has gone to work and sticking to it and giving them no trouble in any way. Takes greater interest in everything and has lost his irritable disposition. In fact, they say that there has been a complete transformation in him and are delighted with the result.

He has not made any effort to learn to read so I am unable to say that there has been any improvement in this direction.

Of course the time has been too short to make any definite statement as to the ultimate result of the operation, but the immediate results have been all that could be desired. He says himself that he feels entirely different since he came from the hospital.

The immediate marked improvement is evidenced by his gain in weight, his freedom from headache and the apparent disappearance of his criminal tendencies.

Before the operation he was constantly in trouble, but now for five months he has not been in the least trouble, and seems to have no desire to return to his former condition.

Of course, in a paper of this kind I cannot begin to go into the symptomatology of the differ-

ent pathological lesions met with in this region which demand surgical treatment and have said nothing along that line but have tried to deal with the conditions which are known, or strongly suspected to exist.

Intracranial pressure is always indicative of some abnormality and is produced by a variety of pathological conditions. Such as intracranial tumors, epidural, anodural and cerebral hemorrhages, effusions into the ventricles, hydrocephalous, and as a result of traumatisms.

When pressure within the cranial cavity is sufficient to produce structural changes, if not relieved in a short time, surgical interference is certainly indicated. In other cases where tension is not sufficient to destroy, but great enough to produce radical disturbance of function, it is good practice to do some decompressive operation within this region which may demand surgical intervention so I will have nothing to say along that line but will deal with conditions which are known or strongly suspected to exist.

When pressure within the cranial cavity is sufficient to produce structural changes, if not relieved in a short time, surgical interference is certainly demanded. In other cases where tension may not be so great as to destroy but is sufficient to radically disturb cerebral functions it is good practice to do some decompressive operation.

Intracranial pressure is produced by a variety of pathological lesions. Intracranial tumors, epidural, subdural and cerebral hemorrhages, effusions into the ventricles, hydrocephalous and from traumatism.

These conditions are accompanied, as a rule, by some disturbance of motor function and each has been attacked and in many cases relieved by modern surgical procedures.

DISCUSSION.

ON THE PAPER OF DR. SHEDDAN.

DR. WILLIAM T. BLACK, Memphis: This report of cases by Dr. Sheddan is certainly very interesting. The subject of brain tumor is interesting on account of the fact that only a certain percentage of the cases of brain tumor are diagnosable. When we have symptoms, such as severe headaches, vomiting, dimness of vision, and whether we have localized pressure symptoms or not, in cases that do not clear up under iodid of potassium after a considerable time, a decompression operation will oftentimes be of great serv-

ice. In cases where we get a history of an injury extending back over months or even years, with pressure symptoms developing slowly, by doing a decompression operation we will often relieve the patient, and in a certain percentage of cases we will find a tumor which will account for the trouble. In the class of cases that come on in the young, those who have injuries of the skull during childbirth, oftentimes we have a blood clot formed. This blood clot may undergo degeneration and a cystic tumor form, and as the child increases in age the tumor increases in size, and we have pressure symptoms which we can relieve by doing a trephine operation. I have had several cases very much like the one described by the doctor of injury to the skull, which later on developed epilepsy. One patient, a year after an injury to the skull, had epilepsy for two months, then every month, and then he had two or three epileptic seizures a week. The man was hit in the head with an ax. The doctor who saw the case first removed a spicule of bone, but the epileptic seizures continued, and about a year after the injury I trephined the skull, found a depression of the bone, and marked thickening of the dura. Oftentimes we do not have pressure from the skull, but a thickened dura produces the symptoms. In these cases the dura should be removed, and in doing a decompression operation the dura mater should always be opened.

"MEDICAL INERTIA.*

BY O. DULANEY, M. D.,

Dyersburg, Tenn.

One of the most serious problems connected with medical education in which the development through the increase and broadening of the knowledge on which the medicine of today depends, is that of medical inertia. I will not try to express views of others or corroborate statistics, but merely relate my own personal observation of some of the matters which have been mostly neglected by us as physicians. Too often do we find the young physician leaving school full of enthusiasm with determination to make a success of his chosen profession. But within a few months or years he finds himself falling into a state of apathy, not able to keep himself in line, because he believes by doing so he is retarding his own selfish interests.

There are too many of us who fail to recognize our duty and find comfort in the historic fact

*Read before Tennessee State Medical Association April, 1912.

that our results depend upon well-directed efforts and the concerted action of men in and out of our profession. Never before in the history of our state were we in need of the activity of men with enthusiasm, courage and conviction, with a determination to uphold the honor and dignity of our well-chosen profession, than at the present time.

The higher educational requirements in the campaign lately inaugurated by the Council of Medical Education, is nonpartisan in so far as it relates to the welfare and happiness of the American people. But however tardy we may be, or have been, in regard to these measures, the principle of reform throughout the country will ultimately triumph.

The question for our consideration is, What are we to do toward the advancement of this reform, and where do we find our greatest field of apathy?

The preliminary standard outlined by the Council of Medical Education will perhaps work more of a hardship to the young men of Tennessee than of any state in the South. It is indeed a sad fact, that Tennessee ranks next to the lowest of any state in the Union in regard to education. This should be deplored by us as physicians. Think of the colleges within the borders of our state, filled to their utmost capacity, and yet a small per cent of these students live in the state of Tennessee! Then taking the small proportion of these who would study medicine, our percentage would be very low. Of course, it is a very easy matter for the Northern and Eastern states to suggest and demand a higher preliminary requirement for medical students where men of all avenues of life are educated and compulsory education has been in vogue for quite a time, but with us it is quite different, and it may seem that the requirement is too high, when we take other professions into consideration and their low standards of requirements.

But whatever we may think about this matter makes but little difference. We are living in the age of progressive medicine; and the only thing left for us to do is to unite our efforts for the betterment of our school conditions, both as citizens and as physicians; and unless we do something to facilitate matters, our medical colleges will have to import their students from other states, as they cannot afford to accept a student who has not had the proper preliminary

training, for, when they do, they would fail to be recognized by the association of medical colleges; and public pride alone should encourage us to believe, that the requirement is not too high, and we should unite our efforts toward the advancement of education and place Tennessee in the column where she belongs.

To do this, we must encourage better schools in the rural districts, in the towns and in the cities throughout our state.

Unless something is done rapidly toward the promotion and betterment of educational advancement, we will be seriously handicapped, and perhaps one of the best suggestions to offer for the accomplishment of this purpose would be, to follow the example of the Mother's Congress, which in its recent convention at Memphis recommended that the next General Assembly enact a compulsory education law. This law would require every child in the state to attend school a certain number of months in every year, which would soon place the young men of moderate circumstances in position to study medicine, or engage in any of the activities of any of the professions of our state.

At this point I am going to ask the expression of every man here on this important subject, because I believe that if this one thing could be accomplished, our meeting would be crowned with success, and it would mean much to the advancement of our cause, and we, as Tennesseans, would be relieved very rapidly of the embarrassment of standing at the bottom of the list in educational advancement.

MEDICAL SOCIETIES.

Not only have we been too slow to aid in the development of higher education, but also in our duty to the medical societies. The re-organization of the County Medical Societies, making its members also members of the State Medical Association, then eligible to the American Association, seems to have been the most progressive step in the advancement of medicine in the past few years. Its success has been phenomenal, and the results achieved in this field of medical science are of far-reaching importance to the profession from a medical and humanitarian aspect; and to the public from a social and economic standpoint. The pendulum has gradually swung from the old teaching to the new, and through the efforts and influence of

its pioneers, it has been clearly demonstrated that this co-operation of county and state societies, properly managed, would control and educate the individual, especially pertaining to those who expect to live the lives of activity and usefulness.

The purpose of the Medical Society is to disseminate accurate information concerning practices and conditions of every kind that are dangerous to the public health and morals, and to work for the enlightening of the public on all health matters.

While we think we are living in the age of progressive medicine, and there has been a general moral uplift, and with the nourishment continually derived from our great men of the past, we look forward with great interest with the present and the future, with earnestness of purpose, for the advancement and practical achievements in the days to come.

In our societies and through our journals we are aided in measures used by other countries and the reports of different investigators, and by this mutual and intelligible system of organization, we are kept in touch with science and the work of all nations.

With this great advantage, there is only about sixty per cent of the practitioners of medicine in this state who give heed to the recommendation and plan adopted by the American Medical Association, which is the result of the effort of the most learned of our profession.

With the enthusiasm manifested here at this meeting, you could hardly believe that there is yet about forty per cent of the physicians of this state who are unidentified with their county society; and a very important matter for our consideration is,—What are we to do with this class of men? Should we only look to the future and say, that no man can enter into the ranks of the medical profession who has not had the four years preliminary training and completed his study of medicine and served one year in a hospital, or would it be better for us to devote part of our time in studying the present condition, which seems to retard the advancement of education in every way? Or would it be better to convert the old "moss-back," who is doing more to retard the success of our most energetic men, and acts as a stumblingblock to those who are giving their lives to the devotion and upbuilding and the prevention of the spread of disease?

We have been entirely too slow in grasping the need of reform, and in our duty to the medical society; also the prevention of disease and the encouragement of higher education. If this association should at this time insist and report favorably on the matter of compulsory education and lend its effort in that way, we could then say that our efforts at this time have not been futile. But the next step for us to take, is a consideration of our lack of co-operation with our county health officers.

The county and state boards of health have been successful to a great extent in preventing the scourge of disease and in educating the public to the need of sanitary and civic improvements for the prolongation of human life, demonstrating the most practical and intelligible methods, until today there seems to be more enthusiasm, and the public is more aroused and diligent in their efforts, than are the masses of the physicians. We should awake and teach the public that our duty as physicians is, first, the prevention of disease; second, scientific treatment, which has been so completely revolutionized; and with the aid and practical methods of diagnosis much has been done toward the prolongation of human life; and should it continue in the future as rapidly as in the past in its development, within a few centuries men would live the life of a Methuselah. We should take active steps to make provisions for every incorporated town within this state to have its independent health officers. At the present time, there isn't a city of under five thousand inhabitants that can make and enforce its own health ordinances. The only thing that it can accomplish is, to aid the county officer in the enforcement of the state laws. This is a hardship and injustice to any municipality, which is entirely dependent upon the energy and efforts of one physician, who is, at the present time, elected by the County Court, with its majority entirely ignorant of the need and necessity of the enforcement of hygienic laws and who naturally, under the circumstances, caters to the man as a matter of dollars and cents. Our Committee on Legislation should recommend to the next General Assembly the right of all incorporated towns to enact its own ordinances as they deem wise and as far as they do not conflict with those of the state, and giving them absolute power to elect, as they may see fit. There should also

be a revision of the Act providing for the election of county health officers, especially where we have county medical societies. This should read, that no man would be eligible to hold the position of a county health officer, unless recommended by his County Medical Society. Probably it would be better to recommend at least three physicians, and then the County Court or Governor should elect one of the three to perform this important duty. Then we as physicians would be in position to enlarge our field of usefulness, and by co-operating with the health officers and aiding them in the enforcement of better laws for the protection of our people.

Now we have been too slow to demand our rights and in expressing our views to the Legislature, and the high plane on which the medical profession has been placed, we as men, are as capable as any other class to know the needs of our country, or as those of any other walks of life, and should demand in the future the expression of every man who is a candidate for office as to how he stands on the enforcement of better laws for the protection of health; and then, if we cannot accomplish our purpose, we shall be forced to reach the state of political activity, and encourage the election of enough of our good physicians—all the way from the Legislature even to the President of the United States.

SALVARSAN.*

BY GEO. R. LIVERMORE, M. D.,

Prof. Genito, Urinary Diseases, University of Tennessee, Memphis, Tenn.

So much has been written about salvarsan and so many absurd claims made for it. I have chosen this subject in order to correct some of the false impressions that have been created, in the hope that the exaggerated opinion held by many may be rectified and the disrepute into which it has fallen with others eliminated so that the public generally may derive the benefit that it undoubtedly gives when administered intelligently. The old saying that one swallow does not make a summer has certainly been typified in salvarsan,

for with no other drug has there been as widespread and universal administration by men, many of whom have never seen it used save by themselves, and who know absolutely nothing about its dangers, possibilities or limitations. Their knowledge being confined to articles written by men as little qualified as themselves, makes them view the rapid disappearance of skin and mucous lesions, in their few cases, as proof of positive cure and their failure to see any serious results, as conclusive evidence that such do not occur.

The fact that some deaths have followed its administration, to say nothing of eye and ear involvements, and sloughing of tissue following intramuscular injections has made many condemn it outright and refuse to give it under any circumstances. The former view is ever worse than the latter, for where a physician relies on one injection of salvarsan to effect a cure, he undoubtedly does his patient a greater injustice than the one who relies entirely on mercury and the iodides, for we know that three years of treatment with them will effect a cure, but we can not make this statement in regard to salvarsan, as it is still in the experimental stage.

Dr. Tomaszewski, of the University of Berlin, who has been experimenting with salvarsan ever since it was first given out by Prof. Ehrlich, told me that *he thought* a case of primary syphilis, if seen only a short time after the development of the chancre, could be cured in one year if given three injections, intravenously of 0.6 grms., salvarsan at intervals of several months, with mercury salicylate injections for six months. He said, however, that time alone would determine whether the cure was permanent and that he considered salvarsan a wonderful help in the treatment of syphilis, but that it should never be depended upon to effect a cure without the aid of mercury. He also said he considered salvarsan treatment still in the experimental stage and that many points would have to be worked out before we would know just how much faith to put in the permanency of its results. These views were also borne out by prominent men, whom I interviewed in Vienna, Paris, London and New York. Of course, there were some men, in all places, who were too enthusiastic and some who were just the reverse, but I have observed that the real workers and the real thinkers in all

*Read by title before Tennessee State Medical Association April, 1912.

countries, recognize the advantages, as well as the disadvantages of salvarsan. Knowing just how much good there is in salvarsan and realizing its dangers it behooves us to insist that it be given in the manner that experience has shown to be free from danger in order that the ill effects produced by the injudicious use of it may be reduced to a minimum.

Although some surgeons are giving salvarsan in their offices and allowing the patients to return to their homes immediately after receiving the injection, I consider it unwise and feel sure that the continuation of such a practice will result in harmful effects that could have been eliminated had the patient been in a hospital. One observer has made the statement that he can tell from the reaction produced by salvarsan, the severity of the disease and that he considered it a surer means of diagnosis than the Wasserman reaction. We must not let such a statement go unchallenged as we know that, except in cases of idiosyncrasy to arsenic or highly nervous individuals, when salvarsan is given properly, under aseptic conditions, there is usually no reaction, or at worst, only a very slight one. In my series of cases, I have seen nausea and vomiting occur only once and the highest temperature was 100.4-5, both patients being women. This coincides with results obtained by other surgeons, with whom I have talked, who observe all aseptic and antiseptic precautions, when giving salvarsan.

Dr. F. Hausmann (Russki Wratsch, 1910) says that only the intravenous method should be employed, as it presents no inconveniences except for occasional nausea, slight rise of temperature and soft stools.

Dr. Richard Volk and Dr. B. Lipschutz summarized their experiences at the Wieden Hospital near Vienna in 1910 as follows: In no instance did severe or permanent ill effects follow the injection of salvarsan, although doses up to 0.8 grms. were given.

Prof. Dr. K. Alt (Deutsche Medizinische Wochenschrift, 1910) says that in Magdeburg and Uchtspringe over 400 patients have been treated with salvarsan intravenously without a disturbing episode occurring.

Dr. Chas. Hirsch (Genito, Urinary Diseases and Syphilis, 1912) says:

The use of salvarsan has been attended with variable results and the question of its perma-

nent effects is still an open one, not sufficient time having elapsed to come to any definite conclusions.

I also wish to enter a protest against the indiscriminate use of salvarsan as I think it should be reserved for selected cases, especially those who are seen before the secondary symptoms appear, and those in whom mercury and potassium iodide do not control the disease. The best authorities do not consider salvarsan a cure and even if they did, it would not be indisputable evidence—for we can only judge the future by the past and we know that many cases of syphilis treated with mercury and K. I. have remained apparently well for years only to relapse in the end. If true of mercury, how can we say it will not be true of salvarsan? It is a fact that the spirochete pallida do disappear from the lesions after salvarsan has been given, but new lesions often appear later and spirochete pallida can again be demonstrated.

Dr. Wechselmann in his book (*Die Behandlung der Syphilis mit Eshlick Hata 606*, 1911) says, that from his experience in over 1,400 cases he can not state the permanency of the results obtained with salvarsan.

Marshall, late in 1911, in London *Lancet*, says, that in the present state of knowledge, no drug can replace mercury in the treatment of syphilis. If salvarsan is indicated at all, it is in those cases not influenced by mercury. Some cases resist the action of both.

With the weight of authority recognizing the value of salvarsan, but appreciating its limitations and dangers, it behooves those of us with less experience, to follow the lines laid down by those who are in a position to know. These are as follows: Eyes, heart and kidneys must be free from disease, except that due to syphilis. Prepare patient as for any operation. Give no breakfast and nothing but water to drink for twenty-four hours after the injection has been given. I find it a good plan to inject eight ounces of saline in the rectum immediately after giving salvarsan. Give salvarsan intravenously except in rare cases of heart or kidney disease and then use Levinburne's method of repeated intramuscular injections of small doses in iodipin. Have patient in bed in a hospital and keep there for twenty-four hours following the injection. Sterilize everything used in giving the injection, pre-

pare solutions from distilled water that has been sterilized and operator should wear rubber gloves and operating gown.

The curative value of salvarsan has not yet been determined—consequently mercury and potassium iodide should be given for three years, just as though salvarsan had not been administered.

My own personal opinion of salvarsan is that it causes a more rapid disappearance of lesions than any other remedy, that it prevents complications, that it is free from danger if administered intelligently and that in our present state of knowledge, we ought not to subject the patient to a possible relapse by depending on it alone to cure, but that the treatment with mercury and potassium iodide should be kept up for three years, regardless of the fact that salvarsan has been given.

Exchange Bldg.

CLINICAL DIAGNOSIS AND TREATMENT OF LARYNGEAL DIPHTHERIA.*

BY O. W. HILL, M. D.,

Knoxville, Tenn.

There are two classes of workers in medicine who do great good, and it is difficult for one to decide which are the more useful to the advancement of the art of healing. Today one class of workers, the laboratory men, are telling the other class to watch for anterior poliomyelitis, pellagra, hookworm, etc.; all of which I concede to be real dangers to our civilization. But I fear sometimes in their enthusiasm for the newer pathology they forget the old and known cause of disease and death; however, we, the workers on the firing line, know beyond peradventure what causes the majority of deaths among the people. We know that in children three conditions cause something like 85 per cent of the deaths. They are some form of pulmonary trouble, diphtheria and intestinal diseases. Now the laboratory man has accomplished his all at present, and it is up to us as it were to see in a practical way what can be accomplished for cutting

down the mortality of these diseases, thus contributing our part. Many of us are prone to follow our text-books without questions, and from clinical signs that which is written on the diagnosis of laryngeal diphtheria is pitifully small. Thus occurs the appalling amount of lack of essential knowledge on this most important subject; we are also negligent about comparing notes with ourselves or with our brother practitioners, forgetting the fact that some of the best men never write. So I have selected this commonplace disease and would like for you to discuss it freely. I am telling you my experience, and wish you to give me yours, that we may profit thereby.

The clinical diagnosis of laryngeal diphtheria seems to me to be the cause of more errors to the average practitioner than any other disease as common. Most of us are too prone to look upon a case of hoarseness with equanimity and without investigating the cause underlying.

The laboratory is an invaluable aid, but is, in my experience, only an adjunct and many times is erroneous in its reports, and many times the report comes too late to be of service, to the man in the city within easy reach of the laboratory, then how much more so to the man in the country can readily be seen. A high degree of efficiency is required to properly interpret all clinical signs and symptoms, thereby making an immediate diagnosis and instituting treatment accordingly; because experience teaches us that every moment is most precious to the little fellow thus suffering, and the earlier treatment is administered the better are his chances of recovery.

Therefore, the following symptoms should put us on guard, and cause a tentative diagnosis; difficult respiration with or without temperature but more often very little, slight increase in pulse rate but soft and compressible, history of recurrent croup for the past night or so, child livid and apparently very ill, having a characteristic facial expression which seems to me is best described as "dippy," tongue coated, pupils slightly dilated, fauces and tonsils red and angry. The embarrassed respiration does not improve on emesis or if so returns in a short time. When you can find no other cause for this condition your diagnosis should be subglottic laryngeal diphtheria. The difficult respiration causing flaring of the nostrils, retraction of the sternum and an anxious expression are of course due to ob-

*Read before Tennessee State Medical Association, Chattanooga.

struction. The low temperature and pulse, I am of the opinion are due to the fact that while the process remains subglottic very little toxins are absorbed. When this creeps higher or lower as the case may be then we have these suddenly intense toxic cases which have shown very little symptoms of toxemia previously; and where nothing else will account for the embarrassed respiration you will often find the pulse soft and compressible but not markedly increased in rate. When the temperature is high and the pulse increased in rate the patient is flushed and plethoric. This is tonsillitis or pharyngitis from other causes. On the contrary the child is livid and perhaps pale and the pulse is not full and tense.

Now if this be a streptococcic infection the symptoms are different to the eye of experience, the temperature is generally high, the pulse thready and fast; however, this is not always the case. I have seen cases that the only positive diagnosis reached was clinically, through the administration of anti-toxin and I am an advocate of its administration in all cases where we are unable to demonstrate conclusively that it is not a Klebs-Loeffler infection. In other words, I am convinced that when properly administered anti-toxin is accompanied by little or no danger. It is very questionable with me whether a simple streptococcic infection ever exists in this location in sufficient virulency to cause death. We are simply unable through fallacy of technique to demonstrate the Klebs-Loeffler. This class of microscopy is rather impracticable to the average busy practitioner.

As to danger of anti-toxin, at present there is being quite a little written and said about anaphylaxis; there seems to be some confusion between anaphylaxis and serum sickness or serum intolerance. This latter was originally described by Pirque and Schick and was found due to the serum itself. It occurs in from ten to thirty per cent of the cases. The usual symptoms are fever, a rash generally of an urticarial nature and more or less pain and swelling of the joints. This reaction appears in from one to three weeks and while unpleasant is not often dangerous. Occasionally, however, the reaction is more severe and is manifested by dyspnoea, cynosis, and collapse. Such violent reactions sometimes occur within a few minutes or a few hours after the first injection and may prove

fatal. Gillette has collected thirty cases of that kind, sixteen of which were fatal. Dr. C. P. McNabb, of Knoxville, reports two such cases following small prophylactic doses at about the same time from serum purchased at the same store but the patients being of different families, causing one to suspect impure serum.

Now as to anaphylaxis I am convinced that it is not a real danger and should in no way influence your decision as to administering repeated doses of anti-toxin. My belief is based on my own experience in the New York Nursery and Child's Hospital, the Willard Parker Hospital for contagious diseases, together with several years private practice. I have seen a number of cases die suddenly on being moved or in any way excited, death being due to some unknown cause but apparently to paralysis of the pneumogastric nerve. The heart always beats feebly for a few seconds after respiration has ceased, but it so happens that I have never seen a case die that I could attribute to anaphylaxis.

I also have written queries to a number of clinicians selecting those of great experience. Eben C. Hill, U. S. Army, writes: Anti-toxin is harmless. Dr. Frederick F. Russell, Medical Corps of U. S. A., who has had a most extensive opportunity of studying these supposed effects both experimentally and clinically, affirms that this fear is based on an animal experimentation and is not borne out in the treatment of human beings. Dr. Holt says: Convinced of the essential harmlessness of the serum the tendency is to give larger and larger doses; whereas. Fisher wrote me that in his practice as an attendant at Willard Parker and in private practice he used prophylactic doses and had not observed anaphylaxis in any marked degree. Kerley uses prophylactic doses of one to two thousand units. This also has been virtually the answer of Snyder, of Birmingham; Tulley, of Louisville; Dr. Funk, of the Municipal Hospital, of Philadelphia; Ker, of Edinburg; Elmer E. Hague, and other close observers. I never hesitate, therefore, to give repeated doses if the symptoms are the least urgent even in relapse. I am of the opinion that ere long the profession will find that there is very little cause for this anxiety. As to size of doses, Dr. Porter in his annual statement of the New York State Board of Health reports

that the average amount of serum given those who died from diphtheria in that state was less than twelve thousand units. On the other hand Commissioner Dixon, of Pennsylvania, records doses of 52,000, 57,000, 63,000, 68,000, 117,000 all recovered with no renal or heart complications. Personally I have given as high as 40,000 and as low as 3,000 with good results. My views on prophylactic administration of serum has changed in this respect. I do not consider diphtheria as contagious as I formerly did; in fact, I have never been able to trace the cause of infection to its origin or know of a patient infecting another individual. However, I act on the hypothesis that it is highly contagious, as relates to isolation and protection of other individuals.

In conclusion, the treatment that has served me best is the administration of anti-toxin from 5,000 to 8,000 units, depending upon the virulence of infection and the age of the child, to be repeated from ten to twenty-four hours, as indicated. And the administration of initial doses of mild chloride of mercury repeated each half hour until results are obtained. I have not found the tent in these cases to be very desirable on account of the struggling of the child, but would suggest the following prescription be placed in the room near the bed; creosote drams 1, rubbed up with 2 drams of powdered acacia, this to be added to lotio carbolic acid (1 to 20), ounces 2; all of which is placed in a pint of hot water in a croup kettle, coffee-pot or other convenient vessel. This makes a very pleasant and beneficial inhalant. Plenty of fresh air, and as much nutritious and easily digested food as the child will take, rest and quiet in bed, with as little excitement and disturbance as can be had. My experience with local applications to the throat is at variance with many others, as I do not know of a case in which it was productive of any good, and sometimes because of the struggle and excitement, much harm. Personally, I have long since discontinued it.

Where the above treatment does not accomplish the desired results, intubation should be resorted to and my experience has brought me to the following conclusions: First, it should be resorted to as soon as the child shows the least exhaustion from embarrassed respiration; second, they sometimes die from some unknown cause when you attempt this. I do not think pushing down the membrane is frequent enough to be

called a real danger. In fact, with several hundred cases having passed under my observation I have seen it occur only one time and this did not prove fatal as the tube was immediately removed and the child coughed up the membrane in mould which had been so loosened and required no further intubation; third, it sometimes produces most wonderful and happy results and turns the tide from apparently hopeless defeat to victory. The greatest mistake made in intubation is the delay in performing it. What I wish to impress upon you is this: Do not permit your little patient to exhaust himself and use up many energy units by labored respiration which he may sadly need later on in the death grapple with the toxins. Finally the tube may accomplish inestimable good and in skilled hands can do no harm. However, should that fail to give desired relief in the proper time or for any reason you are unable to accomplish it you should do a tracheotomy.

I will report the following cases recently seen in Knoxville as an example of what one finds almost every day and will endeavor to make myself clear as to the many mistakes in diagnosis.

Baby M., called by Dr. Carmichael to do intubation the case having previously been in the hands of other physicians was treated for various throat ailments other than diphtheria. We found the following condition, weak anaemic child having been reared on condensed milk, pulse 170, temperature 105, respiration rapid and very labored, child markedly cyanosed. Dr. C. had given 8,000 units of anti-toxin with other suitable treatments. We intubated after explaining that that was the only chance and the danger attending such operation. The child improved immediately, recovery uneventful.

Goward V. G., called in consultation by Drs. M. and K., child six years old had been sick for five or six days and was now apparently dying from suffocation, no membrane visible, throat red and inflamed, child had had five thousand units which was repeated; after some discussion we intubated. The results all that could be desired, recovery uninterrupted.

Baby B., called by Dr. Hudson, child three years old, a very poor family and bad surroundings, child apparently dying, the parents having left the room in order not to witness its death. After several trials on an apparently dead baby

was able to introduce a tube. Dr. Hudson instituted artificial respiration. After what seemed several minutes child began to breathe, recovery rapid and complete. This case received 10,000 units.

Mamie G., called by Dr. McCreary; found the child slightly cyanosed, difficult breathing, temperature 102, pulse 138. History of tonsillitis, treated for some days by another physician, Dr. M. having been called that morning and diagnosed it as laryngeal diphtheria, the other physician refusing to continue in the case. The doctor had given 4,000 units of anti-toxin that morning at his own expense, the father stating that he had no money to buy it with. We immediately gave 4,000 more and suggested intubation, but they refused. After prescribing some stimulants we gave instructions to call us if the child grew markedly worse. Was called at 2:00 a. m., child died before we arrived.

Lilly Rhea C., age five years, called by Dr. McCowan who had made a tentative diagnosis of diphtheria, but wished confirmation. Found both tonsils red and swollen but no membrane visible, temperature 104, pulse 144 and threatening, embarrassed respiration; child livid and dippy looking, slight heart murmur; gave 8,000 units of anti-toxin, and called Dr. C. B. Jones, whom I have found to be very skilled with the bronchoscope, to ascertain if any membrane were present. He easily located it in the larynx. Child grew some better, but much worse after some hours. At 8:00 p. m. intubated. Great improvement of respiration; saw her at 12:30 a. m., gave her as much stimulation as she would bear. Child died of toxemia at 3:00 a. m.

Baby S., called with Dr. Rule, who gave the following history: Had had cold with a fetid secretion from its nose; no membrane. Child was now growing hoarse, was afraid of diphtheria and wanted me to see it. Slight membrane deep in the pharynx, gave 5,000 units, repeated it in ten hours; uninterrupted recovery.

Beatrice B., age three years, called by Dr. Christenberry to intubate. Found child almost pulseless, deeply cyanosed, greatly embarrassed respiration, breathing about 11 times per minute and from all appearances was dying. Immediately intubated, Dr. Christenberry having previously administered 7,000 units of anti-toxin.

That afternoon we gave 4,000 more, and administered stimulants; removed tube on the third day; uninterrupted recovery.

Lizzie M., called by Dr. Rule, diagnosis laryngeal diphtheria, temperature 102 1-5, respiration slightly accelerated, no membrane visible; gave 1-5 grain of calomel every thirty minutes till patient had free evacuation, also 5,000 units of anti-toxin repeated in 14 hours; recovery uneventful; laboratory report negative.

Louise A., age 5 years, called by Dr. S. R. Miller, child with no membrane, throat slightly red, headache, temperature 102, pulse 130. Had all the appearance of diphtheria, and a very sick child. Lungs and abdomen negative, slight cough. We decided to give 4,000 units, and repeat in 2 hours, of course having given before the initial dose of chloride. Symptoms all disappeared in 48 hours. Laboratory report positive, but would have come too late.

Leon D., brought in my office on Sunday morning. The family was making a trip through the country and stopped in my office for me to see the little boy, giving the following history: age four and one-half years, strong and healthy, history of recurrent croup for most of life; had been suffering one of these attacks for last night or so but was better each morning. Their physician had been treating him with emetics. This morning however, patient had grown worse. Child was normal in color, temperature and pulse rate slightly increased, but was having much difficulty in breathing; throat red and swollen, tonsils slightly enlarged, no membrane visible. I could readily see how the Dr. had diagnosed spasmodic croup. After emesis the child grew better but much worse that night. Monday received negative report, however I prevailed on the parents to consent to the administration of 8,000 units of anti-toxin. The child grew steadily worse, the only difficulty seeming to be embarrassed respiration. At 1:00 a. m. Tuesday, was called. After consultation decided to intubate as the patient was becoming markedly cyanosed for the first time. Tube introduced without difficulty upon first trial, but child immediately ceased to breathe. Heart beat weakly for a few seconds, and all was over. Cause of death unknown.

Cherokee Bldg.

TREATMENT OF LARYNGEAL DIPHTHERIA.*

BY W. S. FARMER, M. D.,

Cookeville, Tenn.

The treatment of "laryngeal diphtheria" can be summed up in three words; antitoxine, intubation and tracheotomy. We should remember that laryngeal diphtheria is diphtheria. We should also remember that laryngeal diphtheria and membranous croup are one and the same thing. Remember that bacteriology has properly shelved the term, membranous croup by modern methods of diagnosis, and substituted "laryngeal diphtheria."

We should also remember that a child ill with diphtheria, must be looked upon as a child poisoned. Antitoxine is the antidote, and every case must receive enough of the antidote to neutralize the poison. Whether this will be supplied, depends upon the recentness of the infection, when seen by the physician, and upon his ability to apply the remedy. In all cases of laryngeal diphtheria, we should give 7,000 to 10,000 units of antitoxine as an initial dose, repeated in a few hours if the patient does not improve.

Kerley, of New York, tells us that according to his observation, intubation cases require 10,000 to 15,000 units even when antitoxine is used early. In my limited experience, I have given as much as 67,500 units in an intubation case. These cases should receive large doses of antitoxine early in the disease, but if not seen early, antitoxine should be given no matter when seen. Antitoxine may be of benefit and recovery take place even as late as sixth or seventh day of disease.

SITE OF INJECTION.

The skin over the abdomen between the umbilicus and anterior spine of ilium, the buttocks or anywhere the skin is loose. My favorite place is at the angle of scapula. Of course it should be done antiseptically, and Z. O. Plaster one inch square applied over the injection. Care should be taken not to plunge the needle into muscle.

*Read before Tennessee State Medical Association April, 1912.

REMEDIAL MEASURES OTHER THAN ANTITOXIN.

Among the many different remedies which have been advocated from time to time in the treatment, practically none remains in use, at the present time.

SICK ROOM REGIME.

In the management of diphtheria, the same sick-room regime should be carried out, as in other serious illness, viz.: Temperature room 68 to 70 F., free entrance of air. Milk should be given as chief article of diet.

INTUBATION.

To the genius of the late Dr. Joseph O'Dwyer, is due the credit of perfecting this operation, which will forever stand as a monument to him for the great good he has done for mankind. And all loyal Americans should learn to be skillful in the operation. I believe it was the teaching at one time, that no one except the skilled expert should undertake to intubate. O'Dwyer himself felt that to insure its adoption, it was important to keep it in the hands of experts, in the beginning. But we must remember laryngeal diphtheria occurs in the most remote rural districts, same as in the city. And every country practitioner, should by all means supply himself with an "intubation set," and though he might fail at first, try, try again.

The speaker upon one occasion failed to introduce a tube, and upon another occasion had a great deal of trouble in removing a tube that had been left in the larynx for four days. But this does not deter me from using again. I repeat, every doctor living in an isolated place, should by all means have an O'Dwyer Intubation Set.

WHEN TO INTUBATE.

When to intubate is often a puzzling question to many physicians. Some authorities have said it is indicated when there is pronounced recession of the suprasternal and infrasternal regions, and as a result of stenosis air enters the base of lung feebly, or not at all. As a general proposition, intubation is never done too early, but often too late. We should intubate when we see the child wasting vitality in his effort to carry on respiration.

DANGERS OF INTUBATION.

There is scarcely any danger in intubation, if

the physician is reasonably careful. It sometimes happens when the tube is introduced that the membrane is dislodged and pushed ahead of the tube, and in a case of this kind, respiration will stop and almost instant death will occur, if the tube is not removed. This has occurred once in my practice; I quickly removed the tube, and a cast of the larynx was coughed up, the relief was immediate, the child calling for milk, at the same time, stating that she felt much better. You will be surprised at the amount of membrane that can be coughed up, through a tube.

HOW SOON SHALL THE TUBE BE REMOVED.

If the patient is progressing satisfactorily, the tube need not be removed before the fourth day. But we should remember if we give large doses of antitoxine early, many cases are relieved without the necessity of operation. As to tracheotomy, I haven't had any experience. These cases should be isolated and treated as other contagious diseases.

The records of this country, taken as a whole, are far below what we should expect in the treatment of "laryngeal diphtheria." Vermont, I believe has the lowest death rate of any state in the union, which, according to Surgeon General of U. S. Army, is 11.3 per cent. And while antitoxin is a specific in diphtheria, the inadequate use of antitoxin based on lack of faith in its curative properties, and fear of the serum, is responsible for so many failures.

The cost of antitoxin, from \$5.00 to \$10.00 average dose, also deprives many physicians from using antitoxin. Our state and counties, should have some arrangements whereby, the poor of our state should have the benefit of this life saving remedy.

Texas, has recently decided to manufacture her own antitoxin, and I see it stated that they can manufacture antitoxin for less than \$1.00 per dose.

My whole professional life, has been spent in doing a country practice. We seldom see any except the worst forms of diphtheria, for country people do not send for a physician as early as city people. But I believe we should cure practically 100 per cent of our cases, if we have the courage to administer enough of antitoxin. Fear of antitoxin is undoubtedly responsible for the small dose given by many physicians.

Some physicians seem to fear paralysis of the heart, but we had heart failure in diphtheria long, before the days of antitoxin. White and Smith after a study of 946 cases, tell us that the early use of antitoxin, seems to prevent heart failure. (Hill.)

Some physicians fear albuminuria, when large doses of antitoxin are administered. We had albuminuria in diphtheria long before the advent of antitoxin.

Dr. Porter, of New York, tells us that the amount of antitoxin that was administered to patients, who died of diphtheria in New York State, was less than 12,000 units. On the contrary Dixon, of Pennsylvania, tells us of 52,000, 57,000, 63,000, 68,000 and 117,000 units, each case recovered, and there was no fatal recurrence nor cardiac complications. (Annual statement for New York.)

During the early part of the past winter, we had many cases of laryngeal diphtheria in my part of the country. They were so numerous that I always carried my intubation case with me, when I went some distance from home, and it was nothing uncommon for me to administer from 20,000 to 40,000 units of antitoxin to my little patients. To one child seen in consultation, 14 months old, we administered 47,500 units of antitoxin; to another 3-year-old child, seen on third day of disease, we administered 67,500 units of antitoxin, with a prompt recovery in each case. In fact, since learning to use larger doses of antitoxin, frequently repeated, I have only seen one case of laryngeal diphtheria die. An intubation was done in this case, but the child was in an exhausted condition, and the family had to send 20 miles, for antitoxin, and before the messenger returned the little one, succumbed from exhaustion.

I make it a rule in these cases not to stop antitoxin until I have administered at least 22,500 units of antitoxin; in fact, I do not feel safe in these cases, unless I have administered 25,000 to 30,000 units of antitoxin. I never use less than 7,500 units in any case, as an initial dose if I can get it, regardless of age.

In consulting many authorities, in regard to the amount of antitoxin needed, frequency of the dose to be repeated, the advice is surprisingly at variance.

I am frank to state, that I do not believe that

the size, or age of child, has anything to do with a dose of antitoxin, provided the child has not previously had antitoxin.

A child suffering with diphtheria, is suffering from a toxemia, in common parlance, the child is poisoned and antitoxin is the antidote, and it may take 20,000, 30,000, 40,000, 50,000 or 100,000 units of antitoxin, to neutralize the poison. Small doses of antitoxin are of little or no avail in laryngeal diphtheria. Our best authorities tell us that the serum is practically harmless, even though we should administer it in tonsillitis.

We have no way of estimating the quantity of toxine generated in any one case of diphtheria. Then as we all know antitoxin is a specific in this disease, the only rational course to pursue, is to give antitoxin, until the characteristic effect is produced, a general improvement in the condition of the patient.

After giving the initial dose, it should be repeated in 6 to 8 hours, if no improvement. In many of my cases, I make it convenient to see them early in the morning and late in the afternoon, administering 15,000 units of antitoxin per day, until the desired effect is produced.

McCullom, tells us at the Boston City Hospital, South Department, that in 1893 no antitoxin was used, and the death rate was 45 to 50 per cent. In 1895 antitoxin was adopted and the amounts used year by year, have been increased, until in 1904 the ratio of deaths was only 7 per cent. This indicates what may be expected from a rational use of antitoxin.

In closing I want to insist that large doses of antitoxin, frequently repeated, will cure practically 100 per cent of our cases barring complications. We should also remember, that these little patients are,

Idols of hearts and households;

They are angels of God in disguise
His sunlight still sleeps in their tresses,

His glory still gleams in their eyes;
Those truants from home and heaven

They have made me more manly and mild;
And I know now how Jesus could liken
The kingdom of God to a child.

Bibliography, Holt, Kerley, International Clinics.

DISCUSSION.

ON THE PAPER OF DR. FARMER.

DR. O. W. HILL, Knoxville, Tenn.: I am very glad I did not read my paper, for the reason that Dr. Farmer's paper is so much better than mine. I wish to commend the doctor for the investigation and thought he has displayed in considering this subject of diphtheria.

I am of the opinion that we pay too much attention to the unusual, and sometimes forget the known causes of death. There is one thing that the doctor did not mention in diphtheria—that is, sudden death.

I had a case not long since in which I gave 10,000 units of antitoxin. In about two hours the child stopped breathing. The heart beat feebly for several seconds, and the child was dead. I attributed it to paralysis of the pneumogastric. We should prepare our patients, or rather the parents for this contingent, for our protection as well as theirs.

With reference to the tube, I would advise keeping a silk thread attached to the tube and tied around a tooth. You will find it will stay there when properly adjusted, and will be a source of comfort to you, especially if the child is very small.

In one case which I had, the doctor fastened the silk to the child's ear. By some means it chewed it into, and I was able to get the tube only on post mortem. Of course, under favorable circumstances, the tube can be extracted with comparative ease without the thread.

Another interesting point about diphtheria is the difficulty which attends the diagnosis in some cases. We see many cases without any fever, or with a slight rise in temperature. The child is not flushed, but looks very sick indeed, and will sometimes suddenly become rapidly worse.

My solution of such a case is that the process is sub-glottic, and the blood supply and the lymphatic supply in this location is very poor, consequently the toxins are not absorbed as rapidly as in other locations, such as the tonsils for instance.

Again I would like to express my appreciation to Dr. Farmer for this paper that I have enjoyed so much.

DR. FRANK TRESTER SMITH, Chattanooga: I want to indorse the position of the essayist in regard to giving larger doses than are usually given in these cases of diphtheria. I do not believe that in the average case the dose given is half as large as it ought to be.

Personally, I prefer to do tracheotomy rather than an intubation, for this reason: I have had two cases in which the tube was coughed out by the patient, and it was a serious thing for these people until I got there. I know that has happened in hospitals where the tube was not reintroduced in time and the child died.

DR. HILL: You did not use a large enough tube.

DR. SMITH: I feel safer with a tracheotomy tube than with an intubation tube. But that, of course, is largely a matter of personal opinion. I know the patient is not going to cough up a tracheotomy tube.

DR. G. VICTOR WILLIAMS, Chattanooga: This is certainly an intensely interesting paper, and one that I have enjoyed listening to very much. There is one thing that I wish to take issue with, and that is the statement made by the essayist that the size of the child has nothing to do with the dose of antitoxin. In a way he is correct, but in another way he is decidedly wrong.

The child has the same infection and toxemia to overcome, if it is to recover, that the adult has, and it cannot develop antitoxin as fast as an adult, consequently it needs more help or antitoxin than the adult. Just as for illustration, were my residence on fire, I would say to the firemen to help my four-year-old son out first, as I am more able to help myself.

The doctor's plea for large doses of antitoxin is correct and is well taken, but I wish to emphasize early doses as of more importance than large doses later. You have to overbalance the toxin in order to cure your patient. Now 1,000 units, if given sufficiently early, will suffice, while it may take 25,000 to 100,000 units later on in the course of the disease.

I wish to report a very interesting case in this connection. Woman, age 25, with baby 10 days old, who developed diphtheria. I immediately gave her 5,000 units as soon as the diagnosis was made, with no improvement, and later gave 5,000 more units. I should have given her 10,000 units or more at first dose had it not been for the fact that the money for the antitoxin, \$7.50 each dose, was charged to me. It was a charity case. The attending physician, during my absence from the city while on my vacation, made no effort to get any more antitoxin for her, so when I returned to the city he informed me that I must take charge of my charity case, as her temperature was still 104.5, and that she was going to die, and that I must sign her death certificate, so I was up against the proposition of how to get more antitoxin for this case; but I happened to think that this case was a few feet within the city limits, so I got permission from the city physician to get some antitoxin at the drug store and charge to the city; so I got 20,000 units and went out and gave her 10,000 units and gave 10,000 units to the drug store where I was charged with 10,000 units, which closed my account. The 10,000 units given her on the eighth day of her illness cured her, while the two doses of 5,000 units each only stayed the toxin of the disease.

About the proteid which causes the anaphylaxis in these patients who have previously had a therapeutic or immunizing dose, I wish to say that I understand from Professor Vaughan and other authorities that if we will only give a very small portion of our antitoxin—say 2 to 5 per cent—and then wait for the ferment or anaphylactic explosion to take place, which will be so slight as to cause no trouble, then in one half or one hour we can safely give the remaining 98 or 95 per cent of our dose of antitoxin.

DR. FARMER (*closing*): I wish to thank the members for their free discussion of my paper.

A MEMBER: I would like to ask Dr. Farmer whether he has ever given antitoxin by mouth.

DR. FARMER: I have not had any experience in giving antitoxin by the mouth. One advantage in giving the larger doses is that you can give fifteen thousand units in two doses of seven thousand five hundred each, and this is better than to give three doses of five thousand each.

RECENT ADVANCES IN THORACIC SURGERY.*

BY W. A. BRYAN, A. M., M. D.,

Professor Surgery and Clinical Surgery, Vanderbilt University, Nashville, Tenn.

The great advances which the last three decades have seen in general and abdominal surgery have not pertained to surgery of the chest. The majority of intra-thoracic lesions amenable, as we usually think of it, to surgical interference are those of an infective type and were treated by preantiseptic surgeons, I dare say, with almost as great success as the average operator now obtains. The reason for this slow development of thoracic surgery and for its present practical limitation to abscess of the lung and empyema is found in another direction than asepsis, for this may be just as rigidly applied here as elsewhere. But the explanation lies in the fact that the procedure of opening the pleura normal or abnormal with few exceptions is likely to be attended by the most alarming manifestations and possibly result in immediate death. This field has therefore proved uninviting. The surgeon feels that what is done in the thorax, therefore is done most safely when done most quickly and feels a sense of relief when the patient is safely returned to his room. The danger of thoracotomy has been variously explained, but explanations must be founded on demonstrable facts to be conclusive. It would seem just therefore to conclude that those explanations which satisfy the requirements of the case and are in harmony with the successful preventive means should be accepted. When the pleura is opened and air rushes into the cavity to take the place of a collapsing lung or to fill the vacuum produced by one already more

*Read before Nashville Academy of Medicine April 30, 1912.

or less collapsed, or to take the place of a fluid that has filled the pleural cavity, the simple ingress of this air does not explain the collapse so likely to follow and so difficult to handle. Respiration is maintained by sinking of the diaphragm which increases the length of the pleural cavity during inspiration and by lifting the costal arches which owing to the obliquity of the ribs increases the circumference. The lung has a slightly elastic tension, too little by far to resist the atmospheric pressure when inspiration produces a pleural vacuum, but enough to empty itself practically when intra and extra pulmonary pressure are the same. The mediastinum plays an altogether negative part in normal respiration, because it is acted upon from its two surfaces by an equal negative pressure and therefore remains stationary. If, however, a slight inequality of pressure should be established in the two pleural cavities a small deviation of this dividing flaccid wall between them will hastily correct the error. Hence we find the mediastinum deviating from a pleura filled with fluid and encroaching upon the sound side thus reducing the capacity of the functioning lung. When a great inequality of pressure is established between the two pleural surfaces of the mediastinum the deviation of the mediastinum is increased and what is more if the pressure remains constant on one side and varies from negative to positive on the other it is easy to see that this vertical median diaphragm between the two lungs flaps from side to side and not only interferes with the function of the heart and the great vessels lying for all practical purposes within the mediastinum but during inspiration deviation toward the sound side will occur admitting too little air into the lung and during expiration the mediastinum deviates away from the sound side thus preventing the normal quantity of expired air from escaping. The consequences are manifest. To put it in physiological terms, the quantity of residual air is increased. The degree of these alterations determines the distress which ensues. Let me illustrate: Suppose the right pleura is opened; the right lung immediately collapses. The pleural cavity fills with inrushing air. The patient now takes an inspiration; the right lung does not functionate at all: the left lung fills only partially as a part of the space occupied by it when fully distended is occupied by the mediastinum which has been

drawn to the left by the attempted vacuum of the left pleural cavity. Expiration is begun and the positive pressure of the left pleura drives the mediastinum in the opposite direction making the cavity of the left pleura larger than it ever is normally and hence the lung is not emptied and cannot be, but the heart and great vessel are driven from side to side with each inspiration and expiration. The great hindrance, therefore, that has withstood advancement of thoracic surgery is this flapping of the mediastinum back and forth during respiration.

During the last few years these impediments have been removed and now the chest may be opened, it seems, with the same degree of impunity as the abdomen. There are two fundamental plans namely that of positive pressure and that of negative pressure. The idea embraced in these two methods is the same, to wit, that the intrapulmonary pressure shall be sufficiently higher than the extrapulmonary pressure to guarantee that an adequate volume of air be inspired and expired, and that even the lung in the opened pleural cavity may be distended partially or completely and thus be made to functionate normally in spite of the opened pleura. These methods do artificially what normal respiration does naturally. In the positive pressure plan the patient's head is placed within an air tight chamber and the atmospheric pressure is raised sufficiently to maintain normal respiration, usually from 10 to 20 mm. mercury. The anesthetist is placed within the cabinet and remains therein until the operation is completed, or in another pattern the anesthetic is maintained by the anesthetist simply introducing his hands into the chamber. In the negative pressure plan, the body of the patient is placed within the cabinet, which must be large enough to accommodate the operator, his assistants and the necessary paraphernalia, and the head of the patient is placed on the outside by thrusting it through a hole lined with a rubber collar. It is an air-tight operating room, and must thus be considerably larger than the positive pressure apparatus, which at most must contain room for the anesthetist and the head of the patient. The pressure is reduced by an air pump to 10 to 20 mm. mercury below normal atmospheric pressure, establishing the same differential as in the positive method with the advantage that in the

negative method the air and the anesthetic pass into the lungs under normal tension.

There are several objections to both these forms of apparatus. They are expensive in the first place. In the second, they, as they are constructed, usually separate the operator from the anesthetist by an intervening wall and thus render necessary communication difficult or impossible. Third, the presence of the cabinet wall around the patient's neck often interferes with the operator and assistants in working on the upper part of the chest. Fourth, the cabinet likewise prevents needful alterations of the position of the patient especially the Trendelenberg or the reversed Trendelenberg position. Fifth, the fact that the pressure must be maintained requires the constant attention of a reliable assistant, and the party or parties enclosed must take the precaution to have all necessary instruments and supplies at hand.

The advantages of these plans are that they both do satisfactorily what they set out to do, namely to relieve the situation of the grave danger of opening the chest cavity, enable the surgeon to undertake many cases that he would otherwise not feel justified in attempting, to take time to do the work accurately, to alter the pressure at will, giving room to work when room is needed, by reducing the pressure and allowing partial collapse of the lung, and distending it to its capacity when the wound is about to be closed, thus avoiding a surgical pneumothorax.

The maintenance of positive pressure is accomplished by Elsberg in a much simpler, more convenient and cheaper way by his plan of introtracheal anesthesia. In this plan the air, laden with the anesthetic is forced under definite and controllable pressure through a tube placed within the larynx after the patient has been anesthetized in the ordinary way and the pressure is maintained sufficiently high to control the distention of the lungs at any degree necessary. In Elsberg's plan respiration is dispensed with entirely, since a sufficient circulation is maintained by the jet within the larynx. The apparatus is not cumbersome, does not get in the operator's way and if the operation is in the mouth or nose prevents absolutely the entrance of blood into the trachea.

Since the advent of the above revolutionizing plans thoracic surgery has made greater advances

than it had previously done in the history of medicine. New operations are springing into established positions and old ones have assumed a much greater safety, so far as the immediate operative danger is concerned and we are enabled to do much more accurate work on account of this safety.

I will refer to the more important newer work in connection with this field of surgery, those namely, that are established on a firm basis, and merely name those that are questionable or remain in the experimental stage.

The ability to enter the thorax in a surgical way gives us a means of broadening our early diagnostic capacity, in the performance of exploratory thoracotomy, limited though the need of this operation may be. Because of the safety of procedure we do not hesitate, when the seriousness of the patient's condition warrants it, to complete our diagnostic data by exploring the deep soft tissues, the bones, the abdomen, the cranium, and in certain cases the very impossibility of accurate differentiation or the very uncertain advance the disease has made forces us to admit that a considerable percentage of these cases are approached more or less in an exploratory manner. I think it fortunate that at last we may, when the facts warrant, deal in the same manner with the chest.

There are times when the only feasible route of access to the diseased structures of the abdomen in the subdiaphragmatic region, especially the upper surface of the liver, the cardiac end of the stomach and the majority of diaphragmatic herniae, if, indeed, not all of them may be more easily if only more safely dealt with through an opening into the thorax held wide by rib-spreaders, and a second opening through the diaphragm. If only it were safer. But few have employed such a route, because the added risk was too great. Now, the better route is safer because it will require less disturbance of the viscera less traction, less dissection and a shorter time, thanks to differential pressure methods.

Another field of work that has been somewhat broadened by the new plan of dealing with the pleural cavities, is cancer of the breast. We have not dared in the past to add a thoracotomy to the already heavy tax entailed upon our patient by a radical operation for cancer of the breast, and such a course has shown a wise choice be-

tween immediate death on the table and certain recurrence of the growth, which depended not upon our inability to dissect away the dangerous tissue from the axillary space, but upon the fact that a definite portion of the chest wall, bone, cartilage, and intercostal structures, could not be removed. This has been settled upon and a definite plan of action is established. In fifty-one cases where this operation was done in Czerny's clinic death followed immediately or shortly afterwards in seventeen of them, an operative mortality of thirty-three and one-third per cent, attributable almost if not wholly to opening the thorax. By employment of differential pressure Sauerbruch, Hoffman, Hæcker and Kuttner have obtained the most satisfactory results. After the breast, muscles, skin and chest wall are dissected away the breast and skin of the opposite side are dissected up and slid over the defect and sutured so as to hermetically close the defect.

The mediastinum becomes, so far as the danger incurred by its proximity to the pleural cavity goes, an open book and one or both pleurae may be opened at the will of the operator. Hence, those tumors that are found growing in this region and those invading it from its limiting walls may if it is anatomically possible, be removed as if they were situated within the abdomen.

Operations on the heart do not by the older methods admit of wide access to that organ and there is always danger of complicating an already serious condition by the plan employed for relief. Indeed in wounds of the heart the pleura has often been opened by the knife thrust and a pneumothorax may be present at the time of admission. With the differential pressure apparatus, in the absence of infection the pleura may be opened purposely and the needful work done without fear from respiratory complications and with much greater dispatch owing to the easy access established.

The occurrence of cancer in the thoracic portion of the oesophagus has always been considered hopeless. If only sufficiently early diagnosis can be made i. e. before ulceration, there seems to be a gleam of hope that resection even of its most inaccessible portions may yet offer something of worth. The procedure, so far as I know, has not yet been successful.

Besides the above operations may be mentioned those which require excision of portions of

the lung, the opening and drainage of pulmonary abscesses, of gangrene of the lung and of large bronchiectatic cavities. They require no especial discussion from the present point of view, except to impress the advantage gained by differential pressure.

There is still a group of operations in which differential pressure serves the surgeon most advantageously when he needs it at all. They are those in which owing to the proximity of the pleural cavity, it may be opened accidentally, or which may at some time show the need of encroaching dangerously near it or voluntarily opening it to accomplish the work in hand. They are resection of portions of the thoracic wall, dissections of the base of the neck and those attacking the upper thorax from above, resection of the dorsal sensory nerve roots for the relief of uncontrollable gastric crises and operations on the kidney which require resection of the last rib to increase the size of the wound.

It may not be amiss, although it sounds incredible, to name a few of the other surgical efforts that differential pressure has stimulated. They are chondrotomy for the relief of symptoms arising from tubercular cavities. Freund's operation for emphysema of the lungs, ligation of the arteries to cause shrinkage of the lung, the treatment of wounds of the intrathoracic vessels and Trendelenberg's operation for the removal of emboli in the pulmonary arteries. These show what is being attempted with more or less success under a definite plan of action which fulfils the physiological needs heretofore wanting and thereby rendered even the most essential work distasteful and dreadful to the surgeon.

REMARKABLE CASE OF KATATONIA.*

BY JOHN W. STEVENS, M. D.,

Physician-in-charge City View Sanitarium, Nashville, Tenn.

The patient whose history is the subject of this paper is the most remarkable case of Katatonia I have ever seen, and one which I have not found surpassed in the literature. It has at-

*Read before Middle Tennessee Medical Association, Pulaski, Tenn., May 16, 17, 1912.

tracted the interest and remark of all the numerous medical men who have seen him with me, and, though I have reported it before, a year has intervened since that, and the patient's condition having remained unchanged since then, I think this fact adds sufficient further interest to justify its presentation before you now.

Katatonía, the condition from which this patient suffers, is not a separate entity, but a syndrome, a type of dementia præcox. There is no sharp line of demarcation between this and the other forms of this malady, into which it insensibly shades. It shares the unfavorable prognosis of dementia præcox as a whole, though perhaps a few more of these cases recover than do those of the hebephrenic or paranoid type, and, too, sometimes, surprising remissions of months or years occur.

Its etiology is obscure. A psychopathic or neuropathic heredity is found in a large percentage, but many consider it a toxæmic state, and that heredity does not play as great a part in its production as in many other psychoses. A few years ago, it was the habit of many investigators to say that any one can develop dementia præcox. Degeneracy certainly plays an important part in its production, and personally I believe that a mystical turn of mind is a predisposing factor in the development of katatonía. Active hallucinations and many delusions, the assumption of peculiar attitudes, stiffness and constraint in movements, the monotonous repetition is an unvaried manner of certain actions or words, muscular rigidity with senseless resistance to passive movements, or the opposite state in which the patient can be moved into any position, a peculiar state known as negativism in which the patient does the opposite of what he is told to do, refusal of food, mutism, cataleptic conditions miscalled stupor, or sudden, impulsive, violent excitement, are the principal gross symptoms. These patients generally understand pretty well what is happening around them, and after having remained for months in an apparently stuporous state, can give a surprisingly clear account of what occurred during that time. These patients are always interesting because of the almost incomprehensibly bizarre character of their behavior, a fact that loses none of its forcefulness in this particular case, whose history I will now relate.

S. C. H., age 24, Jew, an artist by profession, was admitted to City View Sanitarium, June 13, 1910. Was of a mystical turn of mind as are also his father and brother. Had manifested some peculiar and erratic conduct for several years, and, though a Jew, had taken up Christian Science in which cult he was considered a leader in Nashville. Mental abnormality became more manifest several weeks before admission. When first seen by me, he lay in bed, with eyes tightly closed, oblivious of his surroundings and indifferent to every effort to arouse him. Would not speak and had taken no food for two or three days. During the first couple of weeks after his admission, he would walk about the house and grounds some, took food reasonably well by being urged and would talk a little to the members of his family when they visited him. Constraint marked his whole manner and conduct. Sat stiffly in a chair, most of the time, staring before him. Cataleptic symptoms now presented with classical cerea flexibilitas in which condition he could be pliantly molded into any position which he would retain indefinitely, regardless of how cramped and strained the posture might be. Mutism now manifested itself and has continued during all the twenty-two months he has been under my charge. During this time, he has spoken upon but four or five occasions and then only a few words at each time. On these rare occasions when he has been induced to speak, it has been made evident that he comprehends quite well all that is taking place around him. About a month after admission, refusal of food became absolute, and from that day until this he has not spontaneously taken a morsel of food, a drop of water or anything else into his stomach, it having been necessary to feed him by means of a stomach tube. For this purpose five or six eggs and about two ounces of sugar in a quart of buttermilk have been given regularly twice a day. Upon this his strength and nutrition have been well maintained. Muscular rigidity became manifest about the same time as the refusal of food. Every muscle in his body under voluntary control was under tension. It was impossible to flex any joint in his body without a degree of force endangering a fracture. His arms were held tightly against his side, his head and neck held stiff and his eyelids always tightly shut. Every effort at passive motion was resisted with all his

strength. He lay in the bed like a log and could be as readily stood upon his head as upon his feet. If he raised up he immediately fell back without any effort at protecting himself. Quite oblivious to painful impressions, giving no heed to pin pricks. This state of rigidity and indifference has continued practically unchanged until this day.

About January 1, 1911, as he lay in bed, it began to be noticed that he occasionally turned from side to side. From an occasional occurrence, this quickly became a habit in which he indulged more and more frequently and steadily until, finally, he did it constantly all his waking hours. Each time he rolled squarely upon his shoulder as far as possible without precipitating himself forward upon his face, then immediately rolled back upon the opposite shoulder in the same manner. The rapidity of this turning or rolling increased until its maximum intensity was reached in the early part of February, 1911, at which time an almost incredible condition was presented. Upon February 6, 1911, a nurse was placed beside his bed to keep an accurate and exact count of the number of times he turned. This counting was continued uninterruptedly for six hours, during which time it was found that he averaged rolling from one side to the other forty-nine times in each minute. This was continued, with but momentary intermissions, for sixteen and one-half hours out of the twenty-four of that day, during which time it was estimated that he turned the almost unbelievable number of nearly fifty thousand times, and not the least remarkable feature of this was the fact that the rate and rhythm of his turning was almost unvarying. That one could sustain such prodigious exertion as this seems hardly possible. I tried it myself and was quite exhausted in a short time. I am sure that it would be quite beyond my powers of endurance to keep it up for one hour. After a few days, the rapidity of his turning, and the number of hours so engaged, began to decline, reaching a point that has been maintained for the fourteen months since that time. Observations made recently show that he now spends about ten hours of each day rolling, averaging, let us say to be on the safe side and

not to exaggerate, thirty-five times to the minute.

As indicated before, the muscular rigidity continues. He still keeps his eyes tightly shut, never speaks, is quite indifferent to pain and totally refuses to take food or drink, rendering it necessary to still regularly tube feed him. That all of this is purely voluntary is demonstrated by the fact that when the door of his room is closed and he thinks himself unobserved, he is sometimes seen to stop rolling, relax himself, open his eyes and look about. At such times, in the summer months, he would occasionally brush the flies away. He wishes to be covered with but one blanket, and, if another is put on him, when unobserved, he will throw it off. Sometime ago, he began to expectorate quite a bit, always, however, spitting on the floor on the right side of his bed only and never, under any circumstances, on the left. For several months too, he has steadily uttered a monotonous grunt or sing-song. He always passes his urine and feces in the bed.

I have found it interesting to compute his expenditure of energy in terms of other work. To this end, I undertook to estimate how far he would have traveled had he rolled in the same direction all the time. Being placed on the floor and rolled completely over, it was found that his body was moved a distance of three feet and three inches. In rolling from one shoulder to the other, he moves his body almost half this distance, but in order certainly not to overstate the matter, I have estimated that at each turn he moves his body but one foot (unquestionably it is further than that). Therefore, on the day when he turned fifty thousand times he must have rolled somewhat more than fifty thousand feet, in round numbers ten miles. Again, to be on the perfectly safe side and surely not to overestimate, we will say that in the fourteen months following that he has averaged rolling ten hours of each day at the rate of thirty-five times a minute. This would be thirty-five feet for each minute, twenty-one hundred feet for each hour and twenty-one thousand feet, or a fraction over four miles each day, or a total of seventeen hundred miles, half the distance across the American Continent.

THE JOURNAL*of the***Tennessee State Medical Association****Office of Publication, Jackson Building, Nashville, Tenn.****OCTOBER, 1912****EDITORIALS****THE CRANK AT LARGE.**

The murderous assault upon ex-President Roosevelt at Milwaukee on October 10th, by one of the large army of cranks with which the country is infested, should serve to emphasize a valuable practical lesson. Aside from consideration of the prominence of the victim, this insane act was of special significance as indicating the ever present danger which menaces society because of its strange reluctance to protect itself from this and other types of the mentally unsound. A Garfield falls at the hands of a Guitteau, a McKinley at the hands of a Czolgos, a Roosevelt at the hands of a Schrank, and a wave of horror and denunciation sweeps the country. But when the temporary excitement is over the incident is soon forgotten, and the public calmly settles itself to wait for the next repetition. When an effort is made to awaken popular interest in measures looking to the prevention of similar occurrences in the future an impenetrable indifference is encountered, or else a vicious opposition of which argument based on the sacredness of "personal liberty" is usually the senseless refrain.

The problem is by no means a simple one, even with the most active and enlightened co-operation of the public. Permanent incarceration of all dangerous citizens would be the obvious solution, if the means were at hand of determining just which citizens are or are likely to become dangerous. Often a homicidal explosion is the first tangible evidence of mental abnormality. In every community there are individuals so unstable in their make-up that intemperate political articles

in the daily press or an inflammatory harangue by a stump speaker in whom volubility passes for brains, may prove the ready incentive to acts of violence of various kinds. It is well known that immediately following the sensational publication of some peculiarly atrocious crime, closely analogous crimes in widely separated localities are apt to be recorded. The resulting crop of criminals is usually promptly harvested, and society rests smugly complacent in the assumption that *revenge* is vindication.

The truth is that this question, in many of its phases, is a hopeless one so far as it concerns the present generation. Regulation of the press, suppression of the foul-mouthed political agitator, prohibition of defamatory misstatements, written or spoken, might be expected in some measure to remedy the evil, if regulation, suppression and prohibition were not as likely to be honored in the breach as in the observance.

But with a larger view the question may be faced with some assurance. The present generation may perforce have to endure and punish its cranks; but if the issue is squarely confronted and boldly attacked, succeeding generations may in a very positive sense be safeguarded. The outlaws of society today are the descendants of the outlaws and degenerates of yesterday, and those of tomorrow will spring from those of today. No fact in criminology has been more certainly established than this. We of the present day may not be able to escape our heritage of vice and crime, but by taking thought of the morrow we may insure a worthier heritage to those who shall follow us.

The new science of eugenics is concerned with this very problem—"borning better babies." It is strange, when one stops to think of it, that it should have remained for the twentieth century to realize the simple truth that the human race is more important than the brute creation; that the quality of the human stock is more to be regarded than the quality of swine or cattle; that the pedigree of a human baby is of infinitely

greater moment than that of the costliest colt or the fanciest barnyard chick. It is to this new department of science, the truths upon which it is founded and the purposes which inspire it, that society must look for its future safety and progress. So looking, the vision is clearer and the way leads upward.

It is a source of genuine gratification to the entire country that Mr. Roosevelt escaped so lightly. The splendid constitution of the intended victim proved his best asset in this tragic crisis. Regardless of political preferences, all classes and sections join in congratulations to the distinguished citizen at the happy termination of a most deplorable affair.

CONFERENCE STATE SECRETARIES.

At the Conference of the State Secretaries of the constituent State Associations held in Chicago, October 23 and 24, called by the Committee on Uniform Regulation of Membership of the American Medical Association, the following recommendations were unanimously adopted, and promise of support for their adoption by the constituent associations was made by more than forty state secretaries who were in attendance.

REPORT OF THE COMMITTEE ON RECOMMENDATIONS.

After two days' discussion it was evident that the secretaries present were agreed as to the advisability of a uniform fiscal year for all parts of the organization, to coincide with the calendar year, and that they favored the expiration of membership at the end of each year and a complete revision of the membership rolls at the beginning of each year. The committee on recommendations, consisting of Dr. E. J. Goodwin, Missouri State Medical Association; Dr. Wilfrid Haughey, Michigan State Medical Society; Dr. Perry Bromberg, Tennessee State Medical Association; Dr. William S. Gardner, Medical and Chirurgical Faculty of Maryland, and Dr. F. R. Green, secretary of the committee and of the Council on Health and Public Instruction, brought in a report recommending the adoption of provisions on these two points, and that all other points be deferred for further consideration. The report of the committee follows:

The Committee on Recommendations herewith submits the following report:

1. We recommend that this conference indorse the plan of having the fiscal year coincide with the calen-

dar year in all parts of the organization. We further recommend that secretaries of all State Associations which have not already adopted this provision bring this matter to the attention of their associations and recommend its adoption.

2. We recommend that constituent State Associations adopt provisions making dues in component societies payable on January 1 of each year, and requiring county secretaries to report to state secretaries all members in good standing, together with their per capita assessment for the current year not later than March 31. State societies desiring to do so may provide a shorter period.

3. The recommendation regarding the third question under discussion is covered by our recommendation of the second.

4. Regarding the prorating of dues, we recommend that this be made optional with each component society.

5. Regarding an admission fee for membership we recommend that this be made optional with component societies.

6. While the committee recognizes, as a general principle, that a uniform system of blanks for county and State societies is desirable, as soon as practicable, we recommend further consideration of this question at a later conference.

7. We recommend that the House of Delegates of the American Medical Association be asked to consider the advisability of issuing charters to constituent State Associations.

8. We recognize the desirability and advantage of a uniform method of transfer, but this system cannot be established until there has been developed a greater uniformity in other details of organization. We therefore recommend that this question be made the subject of discussion at a future conference.

9. The committee recognizes the value of this conference to the State Association secretaries, and to the purpose of organization; it therefore recommends that future conferences of this character be held.

The advantages to the State Association as well as to the American Medical Association, in adopting the above recommendations, are manifest.

The fiscal and calendar years should correspond, and our members are urged to keep in mind that January 1st is the date upon which their assessment to State and County Societies will be due. County Secretaries will be allowed a reasonable time in which to report to the State Secretary, but under no circumstances will membership in the State Association be continued longer than April 1st, unless dues are paid and report made to the State Secretary by that time. Remember, your membership will expire automatically on January 1st, 1913; you will be kept on the books and will receive the JOURNAL until

April 1st, 1913, at which time if you have not paid your County Secretary, or if he has not reported to the State Secretary, your name will be dropped from the new roster. County Secretaries are referred especially to that part of the report of the committee bearing upon their reports to the State Secretary and will notice that they are expected to send in their reports as soon after January 1st as possible. It is immaterial when county meetings are held, or when the state meeting occurs, and has no bearing upon the important fact that the fiscal year of this Association begins January 1st and ends December 31st.

In time we hope and trust that the State Association will adopt the plan of giving medical defense to its members, and then it may be very important that we have a definite fixed time for the payment of dues.

We commend the report as being highly practicable, and trust our County Secretaries will aid us in every way in instituting the reform.

REVIEW DEPARTMENT.

Realizing the importance of a Department of Abstracts and Book Reviews, to the general practitioner, the editors have decided to open such a department in the JOURNAL; and while it is obviously impossible, in the space which we can devote to such a department, to cover the field, an honest effort will be made to select for review the best medical journals published in this country and list the original contributions, abstracting those articles which in the opinion of our abstract editor are worthy.

We are pleased to announce to our members that Dr. Jos. Gallagher, of Nashville, has consented to edit this department and will be assisted by a corps of especially competent physicians whom he will select.

In this department a conscientious effort will be made to place before the reader a brief synopsis of the salient and important features of every article which is reviewed.

An effort to give fair and impartial judgment upon the merits of all books submitted to us for review by the various publishing houses shall be made, and no book shall receive the endorsement of this JOURNAL until it has been carefully stud-

ied. Such criticism or endorsement shall be signed with the full name of the reviewer.

We deem it an especially valuable department to the majority of our members, for it will bring before them many articles which they might possibly overlook or perhaps never see.

It will also give them information concerning the value of a book, which information we shall endeavor to make fair to both the author and reader alike.

SALVARSAN ON THE DEFENSIVE.

When salvarsan was first announced to the world, it was expected that a single dose might work a complete cure of the intractable disease, syphilis. Now it is being talked of as an adjunct to mercury in the treatment of the disease.

In reviewing a symposium of papers read at the last meeting of the A. M. A., the Journal A. M. A. (October 5, 1912) concludes that "Salvarsan is on the defensive," and quotes Dr. Howard Fox as saying that "It would be possible for a prejudiced observer to prove his case in favor of either mercury or salvarsan," and states that the most important fact to bear in mind is that, as a general fact, salvarsan does not cure syphilis, and that to rely on it to do so is to court disaster. If the practitioner uses salvarsan, he should combine with it established methods of treatment, and patients should still be treated in the way which long experience has shown of most benefit.

While none question its powerful action in causing syphilitic lesions to disappear, the final place of the drug in medicine will not be fixed until the danger which attends its use is better understood. That the danger is a real one is shown by the fact that in the discussion on the papers in the symposium four cases of encephalitis occurring in the knowledge of one man within twelve months and one case of optic atrophy following salvarsan were cited.

When it is understood that Salvarsan is the result of serious investigation, and that it was not put on the market until the experimental evidence appeared satisfactory, the history of this drug should be a lasting warning against over-enthusiasm regarding new remedies.

LET'S CONFER.

Without harmony of interest and action on the part of those who are charged with the welfare of the State Association between its annual meetings, prosperity and progress are impossible. In the past this harmony has been sadly lacking, not because of antagonism or indifference of the officers, but rather on account of an apathy which has become chronic in the absence of a proper corrective. In comparison with what is being accomplished by other state organizations, that of Tennessee is pitifully barren of results. As a means of overcoming this condition of affairs, it seems to the Secretary-Editor that there should be held, at an early date, a conference of the councillors and general officers at which a heart-to-heart interchange of views may be had and definite plans for the future formed. Knowing the quality and personnel of the officers and members of this Association as we do, there is not the slightest doubt that such a conference would be productive of great good to all concerned.

With this end in view, it is our purpose, within the next few weeks, to attempt to arrange for a meeting. Surely there is not a councillor or other officer who would not be glad to lend his presence to such an occasion. Let us realize our obligation to our fellows and the larger obligations due to the cause for which we stand, and cheerfully make whatever sacrifice of personal interests may result from a forty-eight hours' absence from the daily routine. We shall be greatly disappointed if there is not a unanimous response to the call.

"SUPPORT THE JOURNAL."

If the members of this Association would only manifest their interest in the JOURNAL by giving it a little practical support, there would be far less difficulty in maintaining full advertising pages, and soon the JOURNAL would be self-supporting. This would in turn be retro-active, for in time the money which is now spent to maintain a journal could be used for medical defense to its members or in some other way whereby the entire membership might profit. Let us offer a suggestion. Consult carefully the advertising

pages, and if in need of anything, buy it from those who are advertising with you.

The writer recently gave a large funeral to one of our advertisers and makes it a point to call the ambulance from this same firm of undertakers. He buys his clothing from those who advertise, as well as surgical instruments or other articles which he may require, and always makes it a point to tell them it is because they help support the JOURNAL with their business. The reader may rely absolutely upon the character of any firm permitted in our pages; we restrict advertising to the legitimate, and in chemicals or drugs demand the approval of the Council on Pharmacy and Chemistry of the American Medical Association.

Bear this in mind, doctor, when making your next purchase, and tell them you read their ad in the JOURNAL.

NEWS ITEMS.

Dr. E. C. Hawkins, of Bristol, has located in Centreville.

Dr. R. K. Landis, of Laguardo, is now located in Nashville.

Dr. H. M. Wells, of Shop Springs, has moved to Watertown.

Dr. and Mrs. Geo. W. Hale, of Nashville, have returned from a trip abroad.

Dr. H. Berlin, of Chattanooga, who has been abroad for six months, will return November 22.

Dr. R. B. Gaston, of Lebanon, has recently located in Laguardo, where he will continue to practice medicine.

Drs. J. Paul Harvill, R. O. Tucker and Perry Bromberg, of Nashville, were recently elected members of the Nashville Board of Health, to fill the vacancies left open by the resignations of Drs. J. T. Altman, W. E. McCampbell and W. F. Glenn.

Dr. P. D. Sims, of Chattanooga, was agreeably surprised October 22nd, when eight of the members of the Chattanooga Academy of Medicine

called at his home in a body and congratulated him upon his eighty-fourth birthday. Many good wishes were extended Dr. Sims, who is beloved by the profession and public alike.

At a recent meeting of the trustees of Erlanger Hospital, of Chattanooga, a request made by the staff, to equip and maintain a laboratory at the hospital, employing a first-class salaried pathologist, was granted, and Dr. W. H. Cheney was appointed. Dr. Cheney immediately left for New York for the necessary equipments, and the laboratory will be in operation by the first of December.

Dr. J. M. Anderson, of Fayetteville, was painfully injured in an automobile accident November 3rd, when he lost control of his car at the top of a steep hill, causing the car to come down at full speed and into a rock fence, which threw the doctor out, breaking his left leg just above the knee. It is feared he will be slow in recovering on account of his age, but we trust this will not be the case.

We are pleased to report the reorganization of the Lauderdale County Medical Society with twenty-four members and the following officers: President, Dr. W. H. Tucker; First Vice-President, Dr. J. B. Lackey; Second Vice-President, Dr. W. C. Sanford; Third Vice-President, Dr. S. B. Sharp; Secretary and Treasurer, Dr. J. H. Lackey; Censors, Drs. G. A. Lusk, J. R. Lewis, S. M. Glenn; Attorney-General, Dr. W. D. Miller; Programme Committee, Drs. J. H. L. Lackey, G. A. Lusk and J. B. Lackey.

The University of Tennessee, Memphis, Tenn., held its opening exercises on September 30th, in the amphitheatre of the University Building, with the largest attendance in the history of the institution. The President in addressing the class announced the opening of the new laboratory building which has just been completed, calling attention to the changes which had been made in remodeling the main building, and announced that they had employed three full time instructors to be added to the faculty, making four full time men now, and two more full time teachers will be added shortly.

The American Surgical Association has appointed a Committee consisting of Drs William L. Estes, South Bethlehem, Pa.; Thomas W. Huntingdon, San Francisco, Calif.; John B. Walker, New York City; Edward Martin, Philadelphia; and John B. Roberts, Chairman, 313 S. 17th Street, Philadelphia, to report on the Operative and Non-Operative Method of Treating of Closed and Open Fractures of the Long Bones and the value of radiography in the study of these injuries. Surgeons, who have published papers relating to this subject within the last ten years, will confer a favor by sending two reprints to the Chairman of the Committee. If no reprints are available, the titles and places of their publication are desired.

JOHN B. ROBERTS, *Chairman*.
313 S. 17th Street, Philadelphia.

The opening exercises of the Galloway Memorial Hospital were held in Room G, South Campus, Vanderbilt University, November 7th.

Mr. Percy Maddin made a preliminary statement relative to the opening. Rabbi Lewinthal read from Psalms, and Dr. Rufus Weaver read the scripture letter from the fourth chapter of Matthew. Dr. Vance delivered the opening prayer.

Music was furnished by the Tennessee Industrial School band.

Following this, Commissioner A. E. Clements made a statement relative to the hospital, in which he stated that the first section would accommodate one hundred charity patients and forty pay patients. The hospital will be thoroughly equipped with operating pavilions, roof-garden, kitchen, administration departments, etc., and will be modern in every detail. The total cost will be \$235,000, of which \$175,000 has already been secured.

Bishop W. R. Lambuth delivered the address, giving a brief history of the conception of the hospital in the minds of a few public-spirited gentlemen of Nashville, and dwelt at length upon the purposes and aims of the hospital.

EAST TENNESSEE MEDICAL ASSOCIATION.

The next meetings of the East Tennessee Medical Association will be held at Lenoir City in May, 1913, and at Rogersville, in October, 1913.

The Johnson City meeting, under the presidency of Dr. Oliver W. Hill, of Knoxville, held October 10th and 11th, was the best in its history. There was a registration of nearly ninety, and all the sessions were well attended and interesting. The profession of Johnson City and Washington County did itself proud by their splendid entertainment, open houses and cordial reception. The meeting will long remain in memory as a most pleasing and harmonious occasion. The papers were without exception ably prepared and well discussed, and exemplified the best medical thought of the East Tennessee profession. The local Committee of Arrangements were: Drs. C. J. Broyles, E. A. Long, J. W. Cox, W. J. Matthews and H. D. Miller, all of Johnson City; and Dr. W. R. Dulaney, of Jonesboro.

MINUTES.

FIRST DAY, OCTOBER 10, MORNING SESSION.

Paper, "Subphrenic Abscess Following Operation for Appendicitis," by Dr. C. P. Edwards, of Erwin. Discussion opened by Dr. E. A. Long, of Johnson City, continued by Drs. Wm. St. John, of Bristol, and R. M. McGown, of Knoxville, and closed by the essayist.

Paper, "Report of Cases," by Dr. W. K. Vance, of Bristol. Discussion opened by Dr. M. A. Blanton, of Baileyton, continued by Drs. J. P. Randall, of Johnson City; E. A. Long, of Johnson City; Wm. St. John, of Bristol; Thos. D. Cloyd, of Mosheim; J. W. Cox, of Johnson City; G. C. Horne, of Jonesboro; J. W. Wallace, of Watauga; and J. F. Arnold, of Limestone; and closed by the essayist.

Paper, "A Healthy Progeny," by Dr. J. W. Cox, of Johnson City. Discussion opened by Dr. W. K. Vance, of Bristol; continued by Drs. E. A. Long, of Johnson City; Wm. St. John, of Bristol; R. M. McCown, of Knoxville; and T. B. Yancey, of Mountain City; and closed by the essayist.

AFTERNOON SESSION.

Paper, "Proctitis," by Dr. J. Q. A. West, of Knoxville. Discussion opened by Dr. E. Dunbar Newell, of Chattanooga; continued by others and closed by the essayist.

Paper, "Coughs," by Dr. M. A. Blanton, of Baileyton. Discussion opened by Dr. J. T. Leep-

er, of Lenoir City; continued by Drs. C. B. Wylic, of Chattanooga, and Jas. H. Atlee, of Chattanooga, and closed by the essayist.

Paper, "The Prognosis of Pulmonary Tuberculosis," by Dr. James Sawyer, of Knoxville. Discussion by Dr. J. J. Waller, of Oliver Springs, and closed by the essayist.

Paper, "The Pediatrician as a Dietetist," by Dr. M. H. P. Panhorst, of Jonesboro. Discussion by Dr. Jas. H. Atlee, of Chattanooga, and, in closing, by the essayist.

Paper, "Rational vs. Drug Therapeutics," by Dr. C. P. Fox, of Greeneville. Discussion opened by Dr. W. S. Austin, of Knoxville; continued by Drs. E. Dunbar Newell, of Chattanooga; J. P. Randall, of Johnson City; L. Sheddan, of Knoxville; and M. H. P. Panhorst, of Jonesboro; and closed by the essayist.

An automobile ride was then given by the profession and citizens of Johnson City. The trip included visits to the National Soldiers Home and State Normal, and a tour over their magnificent paved streets. It was a most enjoyable affair, and was greatly appreciated by the visiting physicians.

NIGHT SESSION.

A public meeting to which the public were invited and who responded in large numbers. Resolutions of thanks were passed by rising vote to the local profession, the citizens, newspapers and donors of the meeting hall.

The President appointed the following Nominating Committee: Drs. E. Dunbar Newell, of Chattanooga; J. W. Cox, of Johnson City; and R. M. McCown, of Knoxville.

President Oliver W. Hill, of Knoxville, read a most interesting essay entitled, "Doctors' Obligation to Future Generations." Dr. Wm. St. John, of Bristol, followed with a paper on "The Human Tongue." Dr. S. M. Miller, of Knoxville, read on "The Red Cross," and the most successful public meeting closed with a paper by Dr. J. J. Waller, of Oliver Springs, on "Tobacco." This last essay was opened for discussion and freely commented on by Drs. J. P. Randall, of Johnson City; W. S. Nash, of Knoxville; W. J. Matthews, of Johnson City; L. Sheddan, of Knoxville; Wm. St. John, of Bristol; Gus Shipley, of Athens; and the essayist.

Recess of five minutes declared.

Paper, "The Pallative vs. the Operative Treat-

ment of Hernia," by Dr. S. R. Miller, of Knoxville. Discussion opened by Dr. J. P. Tillery, of Knoxville; continued by Drs. L. Sheddán, of Knoxville; J. B. Haskins, of Chattanooga; and W. S. Nash, of Knoxville; and closed by the essayist.

Place of meeting for October, 1913, decided to be Rogersville. (Greeneville was first selected, but on reconsideration and cordial invitation from Dr. W. H. Armstrong, of Rogersville, the Association decided on Rogersville.)

The following officers were elected to serve for six months: President, Dr. H. M. Cass, of Morristown; First Vice-President, Dr. J. P. Randall, of Johnson City; Second Vice-President, Dr. S. G. Eblin, of Lenoir City; Secretary-Treasurer, Dr. H. P. Larimore (re-elected), of Chattanooga.

Secretary-Treasurer Larimore made his report.

A committee as follows was selected to draft a new Constitution and By-Laws and to report at the Lenoir City meeting next May: Drs. J. T. Leeper, of Lenoir City; L. Sheddán, of Knoxville; J. W. Cox, of Johnson City; and H. P. Larimore, of Chattanooga.

A motion was passed that the Secretary deduct his expenses to this meeting from the funds of the Association.

SECOND DAY, OCTOBER 11, MORNING SESSION.

Motion passed that Dr. M. H. P. Panhorst, of Jonesboro, be requested to send his paper to the *STATE MEDICAL JOURNAL* for publication.

Paper, "Intranasal Deformities," by Dr. C. B. Wylie, of Chattanooga. Discussion opened by Dr. C. M. Capps, of Knoxville; continued by Dr. W. S. Nash, of Knoxville, and closed by the essayist.

Paper, "Cancer of the Uterus," by Dr. J. Dunbar Newell, of Chattanooga. Discussion opened by Dr. S. M. Miller, of Knoxville; continued by Drs. W. S. Nash, of Knoxville; L. Sheddán, of Knoxville; M. H. P. Panhorst, of Jonesboro; and H. E. Christenbery, of Lonsdale; and closed by the essayist.

Paper, "Obscure Fevers of Children," by Dr. Jas. H. Atlee, of Chattanooga. Discussed by Dr. Oliver W. Hill, of Knoxville.

Paper, "A Glimpse of Chicago Surgery and

Surgeons," by Dr. E. A. Long, of Johnson City. Discussion opened by Dr. S. R. Miller, of Knoxville; continued by Drs. J. P. Randall, of Johnson City, and J. B. Haskins, of Chattanooga; and closed by the essayist.

Paper, "Goitre et Hyperthyroidism," by Dr. J. B. Haskins, of Chattanooga. Discussed by Dr. L. Sheddán, of Knoxville, and, in closing, by the essayist.

Paper, "Aseptic Management of Labor," by Dr. H. E. Christenbery, of Lonsdale. Discussion opened by Dr. J. P. Randall, of Johnson City; continued by Drs. L. Sheddán, of Knoxville; W. J. Matthews, of Johnson City; J. B. Haskins, of Chattanooga; Jno. B. Shoun, of Hampton; H. P. Larimore, of Chattanooga; M. H. P. Panhorst, of Jonesboro; J. Q. A. West, of Knoxville; Wm. S. Taylor, of Milligan College; J. W. Wallace, of Watagua; and Jas. H. Atlee, of Chattanooga; and closed by the essayist.

Dr. Olin West, of Nashville, addressed the Association on need of health legislation.

The Association adjourned to meet at Lenoir City in May, 1913.

H. P. LARIMORE, *Secretary*.

COUNTY SOCIETY PROCEEDINGS.

WHITE COUNTY.

July Meeting: Nine members were present at the July meeting, and enjoyed a good paper on "Typhoid Vaccination," by Dr. L. D. Cotten, of Sparta.

August Meeting: At the August meeting, Dr. R. Lee Smith, of Doyles, presented a most interesting paper on "Enterocolitis," which was well discussed by all present. Some clinics were presented, and a good social time was had. Five members were present.

September Meeting: Twelve members were present at this meeting. Dr. W. M. Johnson, of Bon Air, presented a splendid paper on "Fractures of the Spinal Column," which elicited a lively discussion from all members present. Some clinics and a query box made the meeting most profitable.

October Meeting: Dr. D. R. Gist, of Sparta, presented a paper on "Scarlet Fever," which was well discussed by all members present. An interesting case of fracture of the skull was reported by Dr. P. K. Lewis.

A. F. RICHARDS, *Secretary*.

POLK COUNTY.

The Polk County Medical Society held its regular meeting on the evening of September 7th, from twelve to two p. m., in the office of Dr. W. Y. Gilliam, of Copperhill. The meeting was called to order by the president, Dr. W. Y. Gilliam, and minutes of the last meeting were read and approved.

The following members were present: Drs. L. E. and F. M. Kinsey, J. J. Barnes, E. M. Akin, A. W. Lewis, W. Y. Gilliam and F. O. Geisler. Dr. Gilliam presented two very interesting clinics—one a female child, fifteen months old, suffering from echinococcus cyst of the liver; another female child, eleven years old, suffering from sarcoma of upper third of femur (the vessels and muscular structure only being involved). The latter diagnosis was concurred by Dr. Nicholson, of Atlanta, who did an operation on the child. These two cases were not discussed in detail, as the time was so limited.

The next meeting place will be designated by the President.

F. O. GEISLER, *Secretary*.

BEDFORD COUNTY.

The Bedford County Medical Society met in regular monthly session, October 17th. The meeting was called to order by President Frierson. The following members were present: Drs. J. P. Taylor, T. R. Ray, G. E. Horton, G. L. Landis, G. C. Haggard, E. W. Patton, G. W. and S. S. Moody, J. L. Morton, W. T. Robinson, W. G. Frierson, R. E. Shelton and F. B. Reagor.

The first business of the Society was for the appointment of committees to arrange for the meeting of the Middle Tennessee Medical Association, which will meet in Shelbyville, November 21st and 22nd, and will be under the auspices of the Bedford County Medical Society, which Society as a whole, and each member in particular, will compose a reception committee, and

the best we have is for all who will come to Shelbyville for this meeting. Dr. W. G. Frierson was made Chairman of the Committee of Arrangements, and was instructed to appoint four others to assist him. When he gets his four, the balance of us will consider ourselves self-appointed, back catchers and second basemen, for the occasion. We hope to have a good meeting of this Association at that time.

The essayist for the evening being absent, the next order of business was case reports. Dr. Taylor reported a case of hyperthyroidism complicating pregnancy, which was discussed by Drs. Coble, Moody, Ray, Robinson and Reagor. Dr. Horton reported a case of linear fracture of the base of the skull, which was discussed by Drs. Coble, Reagor and Taylor. Dr. Robinson reported a case of Pott's fracture, which was discussed by Drs. Taylor, Ray and Reagor. Dr. Haggard reported a case of obscure abdominal and pelvic inflammation with abscess, which resulted in the patient dying.

The committee appointed to arrange for the program for next year were: Drs. Robinson, Ray and Patton.

Moved and carried that we, hereafter, have two sessions a day—one at ten in the morning and another at two in the afternoon on the regular meeting days. On account of the date of our next meeting conflicting with the date of the Middle Tennessee Society, we will have no meeting in November.

F. B. REAGOR, *Secretary*.

JACKSON COUNTY.

The Jackson County Medical Society meets every third Monday in the Courthouse in Gainesboro. We always have very interesting papers and a number of good clinics. All our members are most enthusiastic workers. We never miss a meeting or fail to have as much as one good paper read and every member in attendance.

C. E. REEVES, M. D., *Secretary*.

SEVIER COUNTY.

The Sevier County Medical Society met in the office of Dr. Flannigan on October 9th with the following members in attendance: Drs. A. J. Isham, R. J. Ingle, S. W. Flannagin, J. B. De-

Lozier, F. A. Zollas, J. Yarberry, and J. W. Rogers. A very interesting paper on "Hereditary Diseases" was read by Dr. DeLozier, followed by a most enthusiastic discussion by the members. Dr. Rogers presented a paper on "Typhoid Fever." Refreshments were served by the Lawson Drug Company. The society meets the first and third Wednesdays, and has organized a quiz class which meets every Saturday night.

J. W. ROGERS, M. D., *Secretary*.

DYER COUNTY.

Dyer County Medical Society met on August 8th, in joint session with the druggists and dentists of the county, with the following Committee of Arrangements: J. M. Cole, Dentist; Milton Lattimer, Druggist; and Dr. O. Dulaney. The meeting was called to order by Dr. J. M. Cole, Chairman of the Committee of Arrangements. In the absence of Dr. C. A. Turner, Dr. O. Dulaney delivered the Address of Welcome to the visitors; Drs. Edwards and Richardson responding. The program for the evening was as follows: "Forty Years in Dyersburg," W. R. Hayes, Druggist; "Progress in Medicine," T. J. Walker, Physician; "An Aching Tooth," J. W. Peden, Dentist; "Present-Day Temptations of a Bald Headed Physician," I. N. Rawles, Physician; "What the Three 'D's' Stand For," J. T. Jacocks, Druggist.

At the conclusion of the scientific part of the meeting, the visitors were given a banquet at Hurt's Cafe by the Dyersburg doctors, druggists and dentists. Several impromptu speeches were made, which will result in great good to the profession of this county by bringing the men close together and placing themselves as a unit on matters of vital importance to the profession and to the good people of our county and state. After thanks from the visitors to the members of the Dyersburg profession for the loyal entertainment given them, they pledged themselves to attend a similar meeting at the slightest opportunity given them which will be repeated annually.

O. DULANEY, *Secretary*.

RUTHERFORD COUNTY.

The Rutherford County Society at its last meeting had in attendance the following members: Drs. R. W. Reed, E. H. Jones, M. B. Murfree, V. S. Campbell, Rufus Pitts, B. N. White

and A. J. Jamison. President Read presided over the meeting.

Medical legislation was the subject under general discussion. Some very interesting cases were reported by Drs. R. W. Read, E. H. Jones and M. B. Murfree.

RUFUS PITTS, M. D., *Secretary*.

OBION COUNTY.

The following is the program for the Obion County Medical Society, which will meet in Union City, Wednesday, November 20th, 1912:

"Causes and Treatment of Endometritis," Dr. E. H. White, Rives. Discussed by Dr. D. M. Pearce, Union City, Dr. W. F. Roberts, Troy.

"Milk Poison," Dr. J. L. Wright, Elbridge. Discussed by Dr. J. F. Darnell, Obion.

"Treatment of Follicular Tonsilitis," Dr. V. J. Jernigan, Obion. Discussed by Dr. H. T. Butler, Union City.

"Management of Burns," Dr. J. B. Paschall, Fulton, Ky. Discussed by Dr. J. A. Howard, McConnell.

"Advancement of Medicine," Dr. D. M. Pearce, Union City, Dr. F. W. Watson, Union City.

"Prevention of Iritis," Dr. J. D. Carlton, Union City. Discussed by Dr. J. P. Cunningham, Elbridge.

Programme Committee: Dr. J. F. Darnell, President; Dr. M. A. Blanton, Vice-President; Dr. W. A. Reed, Secretary-Treasurer.

"Necessity of Collecting Vital Statistics and Their Relation to Public Health," Dr. J. B. Bond. Discussed by Dr. M. A. Blanton, Union City.

"Treatment of Fractures," Dr. F. W. Watson, Union City. Discussed by V. J. Jernigan, Obion, and Dr. P. N. Matlock, Mason Hall.

"Diagnosis and Management of Pneumonia in Children," Dr. W. A. Reed, Union City. Discussed by Dr. H. W. Qualls, Union City, and Dr. J. F. Roper.

"Management of Complications in Pregnancy," Dr. M. A. Blanton, Union City. Discussed by Dr. J. B. Sharp, Obion, and Dr. S. E. Chandler, Minnick.

"Diagnosis and Treatment of Membranous Croup," Dr. W. A. Howard, Union City. Discussed by Dr. Ira H. Jordan, Obion, and Dr. W. A. Robinson, Obion.

WASHINGTON COUNTY.

The Johnson City and Washington County Medical Society met in its regular monthly session in the office of the Secretary, November 7th, with the following members present: Drs. Randall, West, Broyles, Kennedy, Sells, H. D. Miller, Long and Cox.

After the reading and approval of the minutes of the previous meeting, the Society entered into the reports of clinical cases.

Drs. West and Long reported two cases of partial paralysis in two children that gave a history of sore throat a short time prior to the time they saw the cases, and both gave as their opinion that both children had suffered from mild cases of diphtheria. Under tonic treatment and strichnia, both cases recovered their voices and use of their limbs. The discussion of these cases brought out the ofttime criticisms from the laity and some physicians, that anti-toxine causes paralysis, and helped to again explode the falsity of the position. The discussion naturally led to the dosage, sequelae and prophylaxis by administration to those exposed, and when such course should and should not be followed. Antiphylaxis as a factor in the second administration of the prophylaxis administration of the serum came in for a lengthy discussion, and it was the consensus of opinion of all discussing the subject, from that which had been learned by careful study of the subject, it was the proper procedure not to administer a prophylactic dose at any time after one immunizing administration of anti-toxine and to administer only when such cases developed a true case of diphtheria. Dr. Cox reported a case in a young girl six years of age to whom had been given two years ago an immunizing dose, and who developed true diphtheria in October. After effects in this case were aggravated urticaria, and while the case was not a violent one, it slowly responded to the anti-toxine and made a good recovery. The doctor took the position that he would not risk an immunizing dose to the other children, who, like the little girl, had received the same as she, but rather wait until the disease appeared and then administer as in this one. While it was not clear that this precaution was tenable, it was thought conservative and right.

Dr. Miller's case, formerly reported, of splenomedullary-lukaemia with great enlargement of

the spleen, in which the prognosis was very grave, had the fortunate rupture of an abscess (which evidently existed), into the bowel and the patient has been improving very rapidly ever since, and gives credit to an osteopath for his recovery. If the manipulation by the kind osteopath had ruptured the abscess into the abdominal cavity, only his friends would have been able to make the charge that the osteopath killed him. From this, we are, therefore, about to see the advantage taken of the ignorant to boost the quack and the fake. The former case of the same trouble reported by Dr. Cox is improving very rapidly upon the administration of liquid Bland's arsenic and strichnia, without any evidence of abscess as yet. If the degeneration of the splenic tissues form an abscess to relieve this patient of his enormous spleen, I hope, if the osteopath manipulates him, the contents of same will find as safe an exit as did Dr. Miller's case, and his life be spared, for he is a good man. The above is given to show how these fakirs are subjecting people to danger by their manipulations of the abdominal organs without proper consideration of the responsibility, about which the most of these characters care little. These same fakirs are claiming to cure gall-stone disease and appendicitis by manipulations as above reported, and if these poor unfortunates die, then the fakir will claim they were beyond help, when, in many instances, they simply "bury their mistakes."

Dr. Kennedy will be the essayist for December.

J. W. Cox, M. D., *Secretary*.

CARROLL COUNTY.

The Carroll County Medical Society met in Huntingdon, October 22, with a fine attendance. The meeting was favored by a paper from Dr. L. L. Duncan, of Hollow Rock, on the "Bacillus of Typhoid," in which the doctor discussed the bacterial phase of typhoid in a very interesting and instructive manner, closing his paper by outlining his method of treating this disease, after which the others present gave their views on treatment.

The members felt much encouraged at the progress of the society. We now have over half of the doctors of the county enrolled and hope to have the remaining half by January 1, 1913.

The next meeting will be held at McKenzie, November 26, 1912.

B. C. DODDS, *Secretary*.

MARRIAGES.

The wedding of Miss Portia Savage, daughter of Dr. and Mrs. G. C. Savage, of Nashville, to Rev. M. E. Ward, took place at the First Baptist Church, in Nashville, October 15th.

The marriage of Miss Laura Matthews, of Camden, to Dr. F. C. Carnell, of Bold Springs, took place at the Methodist Church of Camden, October 15th.

The marriage of Dr. Murray Tate, formerly of Nashville, but now of Meridian, Miss., to Miss Hadie Brown, also of Meridian, took place at the home of the bride, October 23rd.

DEATHS

Mrs. Nancy Sheddan, of Williamsport, mother of Dr. W. K. Sheddan, of Columbia, and Dr. L. L. Sheddan, of Knoxville, died at the home of her daughter, Mrs. Stallings, Williamsport, October 15th.

Mrs. Mary H. Dewitt, of Nashville, died at the home of her son, Dr. Paul Dewitt, October 16th. She is survived by four children.

Mrs. Kate Kimbrough, wife of Dr. R. M. Kimbrough, of Harriman, died at her home, October 26th.

Dr. W. B. Kennedy, of Vonore, Tenn., was found dead in the road two miles north of Vonore, where he had been making a call, October 27th.

Dr. L. B. Graddy, aged 57 years, formerly of Nashville, died at the home of his wife's relatives in Lexington, Tenn., November 9, where he had been for some time in an effort to regain his health.

Dr. Graddy was born in Kentucky, and graduated at the University of Nashville in 1874. After finishing in this school, he went to London, where he studied medicine for two years, specializing on the eye, ear, nose and throat. Returning to this country, he practiced in Omaha, Nebr., ten years. In 1894 he located in Nashville, where he has practiced since.

Dr. Graddy was highly respected amongst the Nashville profession, having served as President of the Nashville Academy of Medicine in 1898, and was also President of the Middle Tennessee Association at one time. He leaves a widow and several brothers and sisters.

MIDDLE TENNESSEE MEDICAL ASSOCIATION.

The following is the preliminary program of the Middle Tennessee Medical Association which will convene in Shelbyville, Tenn., November 21, 22, 1912:

The President's Address, An Appeal for Co-operation of the Laity and the Medical Profession in Public Health Matters. Dr. C. L. Goodrich.

Special Address, The Great American Fraud. Dr. Olin West.

ESSAYS.

1. Dr. George E. Hatcher: The Classification of Insanity. To discuss, Drs. L. E. Ragsdale and J. W. Stevens.
2. Dr. C. A. Robertson: The Curability of Tuberculosis in Tennessee. To discuss, Drs. W. G. Frierson and O. N. Bryan.
3. Dr. A. L. Yearwood: Intestinal Obstruction. To discuss, Drs. T. A. Patrick and R. E. Fort.
4. Dr. W. D. Haggard: Brief Considerations on Intestinal Obstruction. To discuss, Drs. R. A. Barr and W. M. McCabe.
5. Dr. J. P. Crawford: The Importance of Nasal Obstruction to the General Practitioner. To discuss, Drs. Hilliard Wood and E. B. Cayce.
6. Dr. D. P. Oldham: Diphtheria Antitoxin, a Specific. To discuss, Drs. O. H. Wilson and T. J. Coble.
7. Dr. A. L. Sharber: Chronic Intestinal Stasis. To discuss, Drs. L. E. Burch and W. H. Witt.
8. Dr. W. C. Dixon: Vaccines in the Treatment of Typhoid Fever. To discuss, Drs. W. A. Oughterson and W. N. Lackey.
9. Dr. W. F. Cannon: Subject to be announced.
10. Dr. W. A. Bryan: The Discrepancy between Clinical and Post-mortem Findings in Cancer of the Stomach. To discuss, Drs. W. D. Haggard and John Overton.
11. Dr. John A. Witherspoon: Focal Causes of Cardio-Vascular Changes. To discuss, Drs. J. P. Keller and George H. Price.
12. Dr. William Litterer: The Effect of Anti-Syphilitic Remedies on the Wasserman Test. To discuss, Drs. C. F. Anderson and K. L. Jones.
13. Dr. T. A. Patrick: Subject to be announced.
14. Dr. O. N. Bryan: The Management of Early Pulmonary Tuberculosis. To discuss, Drs. E. M. Holmes and K. S. Howlett.
15. Dr. Thomas G. Pollard: The Open Treatment of Fractures. To discuss, Drs. Duncan Eve, Jr., and S. S. Moody.
16. Dr. R. E. Fort: Case Reports—Subjects to be announced.
17. Dr. J. M. Cullum: Subject to be announced.

18. Dr. W. A. Oughterson: "Rheumatism." To discuss, Drs. W. W. Porter and W. C. Dixon.
19. Dr. E. B. Cayce: Subconjunctival Injections in Eye Diseases. To discuss, Drs. W. S. Dotson and G. C. Savage.
20. Dr. J. M. Walsh: "Indigestion." To discuss, Drs. J. K. Blackburn and B. F. Fyke.
21. Dr. B. E. Noblett: Subject to be announced.
22. Dr. J. P. Keller: Epidemic Cerebrospinal Meningitis. To discuss, Drs. Jack Witherspoon and B. T. Nolen.
23. Dr. Chas. F. Anderson: Operative Treatment of Stricture of the Urethra. To discuss, Drs. M. B. Murfree and Perry Bromberg.
24. Dr. W. D. Sumpter: Case Reports—Cyst of the Gall Ducts; Acute Dilatation of the Stomach Following Laparotomy. To discuss, Drs. H. M. Tigert and Robert Caldwell.
25. Dr. W. H. Witt: Pernicious Anemia. To discuss, Drs. F. B. Reagor and William Litterer.

NOTICE.

Other members who desire to read papers at this meeting are requested to send their subjects to the Secretary before Thursday, November 14. They will be added to the above list in the order in which their titles are received.

The meeting will be called to order on Thursday morning promptly at 10:30 o'clock by Dr. W. G. Frierson, Chairman of the Committee of Arrangements. After prayer the regular scientific program will be taken up. After the special program on Thursday evening, to which the public is invited, the regular scientific program will be continued.

The Committee of Arrangements has done everything for our comfort and convenience, and all may be assured of a most cordial welcome at Shelbyville, November 21, 22.

Respectfully,

R. W. BILLINGTON, M.D., *Sec. and Treas.*
142 Seventh Ave., North, Nashville.

Department of Abstracts and Book Reviews.

JOS. GALLAGHER, M.D., Review Editor.

Assisted by Drs. O. N. Bryan, R. W. Billington, E. B. Cayce, H. M. Tigert, Jack Witherspoon and A. G. Nichol.

(Titles marked with an asterisk (*) are abstracted below.)

INTERSTATE MEDICAL JOURNAL, ST. LOUIS, OCTOBER, 1912.

Critical Review of Theory of Muscle Rigidity and Degeneration in Pulmonary Tuberculosis and Other Conditions of Thorax; Nervous Mechanism and Diagnostic Limitations. J. L. Pomeroy, Monrovia, Cal.

Bacterin Treatment of Pertussis. J. Zahorsky, St. Louis.
Auscultatory Blood-Pressure Phenomenon; Clinical Determination of Diastolic Pressure. L. M. Warfield, Milwaukee, Wis.

Results of Early Diagnosis of Urinary Tuberculosis. W. F. Braasch, Rochester, Minn.

Drug Influence on Extrasystoles of Mammalian Heart. C. P. McCord, Ann Harbor, Mich.

JOURNAL AMERICAN MEDICAL ASSOCIATION, OCTOBER 5, 1912.

*The Administration of Salvarsan in Syphilis. Jno. A. Fordyce, M. D., New York.

Identification of Spirochæta Pallida in Culture. H. Noguchi, M. D., New York.

Anaphylaxis to Salvarsan. H. F. Swift, New York.

The Proper Places of Mercury and Salvarsan in Treatment of Syphilis. Abner Post, M. D., Boston.

The Relative Value of Mercury and Salvarsan from a Serologic Point of View. Howard Fox, M. D., New York.

The Teaching of Syphilis. The Attitude of Hospital Boards to this Disease. Wm. Thos. Corlett, M. D., L. R., C. P., (Lond.,) Cleveland.

The Intensive Treatment of Syphilis. H. F. Swift, M. D., and A. W. M. Ellis, M. D., New York.

The Importance of the Early Diagnosis of Syphilis. Richard Dexter, M. D., and Clyde L. Cummer, M. D., Cleveland.

A Comparison of Normal and Syphilitic Extracts by Means of the Wasserman and Epiphanin Reactions. Albert Keidel, M. D., and S. H. Hurwitz, M. D., Baltimore.

The Luetin Reaction. H. Noguchi, M. D., New York.
Secondary Syphilis Meningitis. Arthur W. M. Ellis, M. D., New York.

Four Years' Experience with the Wasserman Reaction in Practice. B. C. Corbus, M. D., Chicago.

The Value of the Four Reactions in the Diagnosis and Treatment of Syphilitic Diseases of the Nervous System. C. R. Ball, M. D., St. Paul.

A Case of Extensive Brain Disease from Endarteritis Probably of Syphilitic Origin. S. T. Orton, M. D., Worcester, Mass.

Cardiospasm with Sacculatation of the Esophagus. J. C. Myer, M. D., and R. D. Carman, M. D., St. Louis.

Bloodless Surgery of the Liver. J. R. McDill, M. D., Milwaukee.

A Simple Apparatus for Administering Salvarsan Intravenously. Jas. Hamilton, M. D., Providence, R. I.

The Treatment of Chronic Influenza. G. I. Jones, M. D., U. S. Arm, Washington, D. C.

Extensive Dermatitis Medicamentosa from Midol (Pyramidon). P. E. Bechet, M. D., New York.

Congenital Defect in Armenian. A. R. Hoover, M. D., Talas, Cesarea, Turkey.

Anuria Following the Intravenous Administration of Salvarsan. G. R. Livermore, M. D., Memphis.

Non-Adherent Membranous Patch in Pericollitis. V. F. Marshall, M. D., Appleton, Wis.

A Home-Made Infant Incubator. F. E. Leavitt, M. D., St. Paul.

A Peculiar Case of Common Salt Poisoning. O. H. Campbell, M. D., St. Louis.

Common Salt and Constipation. L. S. Hine, M. D., Oakalla, Texas.

*The treatment of syphilis is no longer the control of symptoms. The perfunctory administration of protoiodide pills, a practice too much in vogue, accomplishes little in the eradication of the disease and leads to an immunity to the drug.

He still maintains that intra-muscular injections of alkaline solutions salvarsan better than intravenous. Concludes the efficiency of salvarsan bears a direct relation to age of infection. In early stages three or four doses supplemented by mercury will in many cases cure the disease in from six months to a year.

The florid stage requires more extensive treatment; five or six doses followed by several mercurial doses necessary.

JACK WITHERSPOON, M. D.

JOURNAL AMERICAN MEDICAL ASSOCIATION, OCTOBER 12, 1912.

Public Health in America. H. P. Walcott, M. D., Boston.

Medical Progress. W. A. Jayne, M. D., Denver.

Intestinal Antisepsis. N. M. Harris, M. D., Chicago.

Effect of Iodids on the Circulation and Blood-Vessels in Arterio-sclerosis. Jos. A. Capps, M. D., Chicago.

Clinical Observations on the Duration of Digitalis Action. Cary Eggleston, M. D., New York.

Antityphoid Inoculation. Three Years' Experience with Its Use in Training Schools for Nurses in Massachusetts. L. H. Spooner, M. D., Boston.

Some Results and Fields of Usefulness of Antityphoid Vaccination. F. F. Russell, M. D., Washington, D. C.

Inoculation Against Typhoid in Public Institutions and in Civil Communities. A Further Report. E. W. Hachtel, M. D., and H. W. Stoner, M. D., Baltimore.

A Study of the Ultimate Results in the Dispensary Treatment of Tuberculosis. H. R. M. Landis, A. B., M. D., Philadelphia.

The Mode of Infection in Epidemic Poliomyelitis. Simon Flexner, M. D., New York.

The Production of Active and Passive Immunity to the Pneumococcus With a Soluble Vaccine. A Pre-

- liminary Report. J. O. Hirschfelder, M. D., San Francisco.
 A Graphic Menstrual Chart. Catherine Macfarlane, M. D., Philadelphia.
 A Clinical Incubator at Small Cost. C. Emerson, Ph. D., M. D., Lincoln, Nebr.
 A Pocket Mercury Sphygmomanometer. B. M. Linnell, M. D., Chicago.
 Successful Transplantation of Ureter from Vagina to Fundus of Bladder Twenty Months After Wertheim Operation in Which Greater Part of Trigone Was Resected. Gaston Torrance, M. D., Birmingham, Ala.
 A New Antrum Irrigator. C. C. Charlton, M. D., Atlantic City, N. J.

JOURNAL AMERICAN MEDICAL ASSOCIATION, OCTOBER 19, 1912.

- Some Causes of Sterility and Impotence in the Male. Wm. T. Belfield, M. D., Chicago.
 Surgical Treatment of Prolapse of the Uterus and Walls of the Vagina. W. J. Mayo, M. D., Rochester, Minn.
 The Hygiene of Swimming Pools. M. P. Ravenel, M. D., Madison, Wis.
 The Relation of Interstate Waters to the Spread of Typhoid. A. J. McLaughlin, M. D., Washington, D. C.
 A Further Response to Some Criticisms of the Colloid-Chemical Theory of Water Absorption by Proto-plasm. M. H. Fischer, M. D., Cincinnati.
 The Purpose and Limitations of Bio-Assay. H. C. Wood, Jr., M. D., Philadelphia.
 Chloroma: A Clinical Study of Two Cases. W. I. Bierring, M. D., Des Moines, Iowa.
 Reconstruction of Ball-and-Socket Joints. Percy Willard Roberts, M. D., New York.
 The Speech Relation of Cleft Palate Operation. G. V. I. Brown, M. D., Milwaukee.
 *Pellagra: Observations on Some of its Nervous Manifestations. David Edw. Hoad, M. D., New York.
 A Case of Traumatic Psychosis Associated with an Old Depressed Fracture of the Skull. C. E. Atwood, B. S., M. D., and A. S. Taylor, A. B., M. D., New York.
 Fracture of the Tuberosity of the Ischium Due to Muscular Action. Jno. M. Berry, M. D., Albany, N. Y.

*Dr. Hoag, in a trip through the South, studied pellagra from a neurological standpoint.

The whole mental and neurological picture is indicative of toxemia with subsequent degeneration of cells notably of the cortex cerebri, lateral and cross pyramidal tract of the spinal cord. In general, the nervous symptoms most nearly resemble a neurasthenia interspersed with periods of excitement and delirium.

Dr. Moody, of San Antonio, Texas, says: "The medical treatment of pellagra, outside the purely symptomatic, is sodium-cacodylate."

Dr. Tom A. Williams, of Washington, D. C., says: "Pellagra is not a nervous disease. I should not regard the skin lesions trophic. I consider them as toxic just as eczema is toxic."

What we really have here is an active agent in the nature of a toxin, producing these symptoms.

JACK WITHERSPOON, M. D.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, OCTOBER 26, 1912.

- Injuries of the Spinal Column, With and Without Fracture and Dislocation. Edw. D. Fisher, M. D., New York.
 An Epidemic of Typhoid Fever in Philadelphia. Jos. S. Neff, M. D., LL. D., D. P. H., Philadelphia.
 Some Results of the Treatment of the Baltimore Drinking-Water by Calcium Hypochlorite. Wm. R. Stokes, M. D., and F. W. Hachtel, M. D., Baltimore.
 The Fallacy of Testing Food Materials by Animal Inoculation. W. T. Sedgewick, Sc. D., Boston.
 A Preliminary Report on a Hitherto Unrecognized Six-Day Fever in Ancon, Canal Zone. W. E. Deeks, M. A., M. D., Ancon, Canal Zone.
 Aphasia and Agraphia in Some Practical Surgical Relations. Chas. K. Mills, M. D., and Edward Martin, M. D., Philadelphia.
 The Need for Genetic Studies of Pulmonary Tuberculosis. H. E. Jordan, M. A., Ph. D., University, Va.
 Psoriasis. The Value of Baths and of Maceration in Its Treatment. Douglas W. Montgomery, M. D., San Francisco.
 Protein Metabolism in Late Pregnancy and the Puerperium. J. R. Murlin, M. D., Ph. D., and H. C. Bailey, M. D., New York.
 Books as Carriers of Scarlet Fever Infection. O. B. Nesbitt, M. D., Valparaiso, Ind.
 Recent Advances in our Knowledge of Scarlet Fever. K. K. Koessler, M. D., Chicago.
 The Artificial Culture of Filarial Embryos: A Preliminary Note. Creighton Wellman, M. D., and Foster M. Johns, M. D., New Orleans.
 Surgery of Intramedullary Affections of the Spinal Cord. Chas. A. Elsberg, M. D., New York.
 Immunization Against Typhoid of Eight Hundred and Ninety-Eight Patients. Paul G. Weston, M. D., Warren, Pa.
 The Quantitative Examination of Albumin in the Sputum in Pulmonary Tuberculosis. B. O. Works, M. D., Fort Stanton, New Mexico.
 Unilateral Kidney Hemorrhage Controlled by Injection of Human Blood-Serum. B. S. Barringer, M. D., New York.
 Spontaneous Hemorrhage of the New-born with Recovery. V. M. Reichard, M. D., Fairplay, Md.
 *Diphtheritic Serum Used to Control Bleeding in a Hemophiliac. M. J. Perkins, M. D., Spearville, Kans.
 A Case of Hemophilia. E. E. Claybrook, M. D., Cumberland, Md.
 Carbon Monoxid Poisoning with Acute Symptoms. Mary O'Malley, M. D., Washington, D. C.

*Dr. Perkins reports a bleeding hemophiliac treated with diphtheritic antitoxin.

A boy, sixteen years old, bleeding freely from a cut above the upper incisor tooth. After ninety hours of bleeding and, because of no other horse-serum being available, three thousand units of antitoxin was given hypodermically. This injection followed by calcium-lactate, one hundred and eighty grains in thirty grain doses, stopped the bleeding in twenty-four hours.

JACK WITHERSPOON, M. D.

SURGERY, GYNECOLOGY AND OBSTETRICS, SEPTEMBER, 1912.

- Results of Permanent Intubation of the Thoracic Aorta. Alexis Carrel, M. D., New York City.

- Central Dislocation of the Femur. Geo. Tully Vaughn, M. D., Washington.
- *Treatment of Ununited Fractures. Edward Martin, M. D., Philadelphia.
- Surgery of the Arteries; Some Personal Experiences. Albert Vander Veer, M. D., Albany, N. Y.
- Complete Obstruction of the Duodenum Resulting from the Impaction of a Large Gall Stone. Jas. E. Thompson, F. R. C. S. (Eng.), Galveston, Texas.
- Lever Action in the Production of Traumatic Dislocation. Gwilym G. Davis, M. D., Philadelphia.
- Talma Operation for Cirrhosis of the Liver; With Report of Cases. Edgar A. Vander Veer, M. D., Albany, N. Y.
- Nitrous Oxide-Oxygen-Ether Anæsthesia; Notes on Administration; A Perfected Apparatus. F. J. Cotton, A. M., M. D., and W. M. Boothby, A. M., M. D., Boston.
- The Effects of Ureteral Ligation; Experimental and Clinical. J. D. Barney, M. D., Boston.
- Experimental Hydronephrosis Produced by Complete and Incomplete Ligation of the Ureter. G. D. Scott, M. D., Sullivan, Ind.
- Bismuth Poisoning; A Clinical and Pathological Report. Leo. Mayer, M. D., and Geo. Bæhr, M. D., New York City.
- Procedentia Uteri. Suprapubic Plication of Vagina and Conjoined Shortening of Utero-Sacral and Broad Ligaments. Wm. M. Polk, M. D., New York City.
- Sliding Hernia. Paul F. Morf, M. D., Chicago.

"It is commonly accepted today," says Dr. Martin, "that given a clean surgeon and a proper armamentarium, all accessible fractures in which the broken bone ends cannot be placed and retained in such position as to insure reasonable function and absence of gross deformity, should be promptly subjected to open operation; that all fractures of long bones in which, after apparent satisfactory reduction, crepitus cannot be obtained, should be examined through an incision and secured in position after removal of the interposing soft parts; that compound fractures should as a rule be opened, cleaned and neatly apposed with retentive appliance, and, finally, that ununited or viciously united fractures of long standing should be subject to operative treatment without previous trial of conservative methods."

"The disadvantages of the open treatment of fractures are; that it is at times attended by pronounced shock and bleeding; that the utmost care may fail to insure against immediate or remote infection; that union is generally delayed, at times failing entirely."

Special stress is placed upon the production of shock, especially in open treatment of delayed or vicious union, a rapid and marked fall of blood-pressure having been noted when great traction was used in apposing the fractured ends of the bone. The author states that the percentage of

failure after clean operation in long standing ununited fractures is larger than would be suspected from a study of reported cases. By experiment the author observed that union in bones will be more rapid when no buried splints are used and that even intra-medullary bone splints seem to delay or inhibit osteogenesis. He believes that if satisfactory reduction and retention can be secured without operation, the most enthusiastic "plater" would probably recommend the simpler method.

JOSEPH F. GALLAGHER, M. D.

AMERICAN JOURNAL OF ORTHOPEDIC SURGERY.

PHILADELPHIA, AUGUST, 1912. VOLUME X,
NUMBER I.

1. President's Address. V. P. Gibney.
2. Treatment of Structural Scoliosis. A. H. Freiberg.
3. Action of Extrinsic and Intrinsic Muscles of the Foot. Lloyd F. Brown.
4. Structure and Mechanism of Human Joints in Health, Disease, and Injury. G. G. Davis.
5. *An X-Ray Study of Gastrointestinal Findings in Multiple Arthritis. George R. Elliott.
6. Some Considerations on the Pathogenesis and Treatment of Toxic Arthritis. P. W. Nathar.
7. The Abdomen, an Important Factor in Chronic Joint Affections. F. E. Peckham.
8. Static Joint Diseases, Etiology and Relation to Arthritis Deformans. Dr. Georg. Preiser.

*Elliott gives the following analyses of nine cases of chronic multiple arthritis from the Montefiore Home for Chronic Invalids: Eight of nine show abnormal position of abdominal organs or variation from normal time that good remains in intestines. Four show ptosis of stomach with delay. Four show ptosis of transverse colon. Five show delay in cecum and transverse colon. One shows constricted colon. One shows marked delay in small intestines. One has markedly enlarged atonic stomach. Three show enlarged spleen. Several show two or more of these abnormalities combined. Four of five patients showing delay have lax abdominal walls. Says the condition is probably the result of an infection having its focus in a distant part of the body, acting either alone or associated with some toxin. He thinks the chief contributory feeder lies somewhere in the gastrointestinal tract.

R. W. BILLINGTON, M.D.

BOOKS RECEIVED.

A TREATISE ON FRACTURES AND DISLOCATIONS. By Lewis A. Stimson, B.A., M.D., LL.D., Professor of Surgery in Cornell University Medical College, New York. New (7th) edition, thoroughly revised. Octavo, 930 pages, with 450 engravings and 39 plates. Cloth, \$5 net. Lea & Febiger, Publishers, Philadelphia and New York, 1912.

AN INTRODUCTION TO THE STUDY OF INFECTION AND IMMUNITY. Including Serum Therapy, Vaccine Therapy, Chemotherapy and Serum Diagnosis. By Charles E. Simon, M.D., Professor of Clinical Pathology and Experimental Medicine, College of Physicians and Surgeons, Baltimore. Octavo, 301 pages; illustrated. Cloth, \$3.25 net. Lea & Febiger, Publishers, Philadelphia and New York, 1912.

A MANUAL OF AUSCULTATION AND PERCUSSION, Embracing the Physical Diagnosis of Diseases of the Lungs and Heart, and of Thoracic Aneurysm, and of other parts. By Austin Flint, M.D., LL.D., Late Professor of Medicine and of Clinical Medicine in the Bellevue Hospital Medical College, etc., New York. Revised by Haven Emerson, A.M., M.D., Associate in Physiology and in Medicine, College of Physicians and Surgeons, Columbia University, New York. 12mo, 361 pages, illustrated. Cloth, \$2 net. Lea & Febiger, Philadelphia and New York, 1912.

A TREATISE ON PELLAGRA, for the General Practitioner. By Edward Jenner Wood, S.B., M.D., Chairman of the Pellagra Commission, North Carolina Board of Health; Member of the American Society of Tropical Medicine; Fellow of the London Society of Tropical Medicine and Hygiene; Formerly President of the Medical Society of North Carolina, etc. With 38 illustrations in text. Price, \$4. D. Appleton & Co., New York and London.

BOOKS REVIEWED.

THE PRACTITIONER'S VISITING LIST for 1913. An invaluable pocket-sized book containing memoranda and data important for every physician, and ruled blanks for recording every detail of practice. The Weekly, Monthly, and 30-Patient Perpetual contain 32 pages of data and 160 pages of classified blanks. The 60-Patient Perpetual consists of 256 pages of blanks alone. Each in one wallet-shaped book, bound in flexible leather, with flap and pocket, pencil with rubber, and calendar for two years. Price by mail, postpaid, to any address, \$1.25. Thumb-letter index, 25 cents extra. Descriptive circular showing the several styles sent on request. Lea & Febiger, Publishers, Philadelphia and New York.

SURGICAL CLINICS OF JOHN B. MURPHY, M.D. Volume I., Number 2. April, 1912. Published bi-monthly by W. B. Saunders Co. Price, \$8 per year.

In this, the second number of Dr. Murphy's "Clinics," the reader is presented nineteen cases of widely different types, worked out and handled in the author's own thorough and forceful manner. Nearly half of this number are bone and joint cases, which represent Dr. Murphy's advanced work in this field. There are many illustrations, several of which are excellent skiograms.

One readily recognizes in these reports the characteristics—even the very words—of this great clinical teacher. They cannot fail to interest any student of surgery or surgical pathology.

R. W. BILLINGTON, M.D.

THE PRACTICAL MEDICINE SERIES. VOLUME V., OBSTETRICS. Comprising ten volumes on the Year's Progress in Medicine and Surgery. Under the general editorial charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School; Charles L. Mix, A.M., M.D., Professor of Physical Diagnosis in the Northwestern University Medical College. Edited by Jos. B. De Lee, A.M., M.D., and H. M. Stowe, M.D. Series 1912. Price, \$1.25. The Year Book Publishers, 180 Dearborn Avenue, Chicago.

AN ESSAY ON HASHEESH. By Victor Robinson, Contributing Editor of Medical Review of Reviews, etc. Medical Review of Reviews, Publishers, N. Y.

An eighty-page booklet giving the history, origin, etc., of Cannabis Indica, with detailed observations of the effects of the drug as experienced by the author and friends when taken in toxic doses. Noting that "Rudyard Kipling has gone far to solemnize delirium tremens," . . . "DeQuincy has immortalized opium . . ." the author has "taken upon himself to write a sonnet to the most interesting plant that blooms!" We do not attempt to pose as a competent critic of poesy, but we would venture the opinion that the author was still floundering in the "come back" period of his Hashesh drunk when he wrote this alleged poetry.

J. F. GALLAGHER, M.D.

THE PRACTICAL MEDICINE SERIES. VOLUME IV., GENERAL MEDICINE. Comprising ten volumes on the Year's Progress in Medicine and Surgery. Under the general editorial charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School; Charles L. Mix, A.M., M.D., Professor of Physical Diagnosis in the Northwestern University Medical College. Edited by Frank Billings, M.S., M.D., and J. H. Salisbury, A.M., M.D. Series 1912. Price, \$1.25. The Year Book Publishers, 180 Dearborn Avenue, Chicago.

PROGRESSIVE MEDICINE. Edited by Hobart Amory Hare, M.D. Lea & Febiger, Philadelphia, Pa. September, 1912.

We take it that it is the earnest desire of every physician to keep fully abreast of the times in his profession, be he surgeon, specialist, or general practitioner. How one can best accomplish this has, no doubt, occurred to every one who attempts to do his best by himself and patients. There are so many good journals published and advances are made so rapidly in all the branches of medicine, busy practitioners find it difficult to devote the time to reading necessary to keep up-to-date. This is the most serious difficulty, even if the monetary side of the question did not enter into the situation. It is not an unfamiliar sight to see in the office of a physician doing a large general practice numbers of journals, dusty with age, the wrappers still unbroken. He hasn't had time to open them! And even if he did, he may find himself reading a lengthy article, only at the end to come to the conclusion that it is of no value.

This we believe to be the dilemma confronting many, and it is to those especially we would most heartily recommend *Progressive Medicine*. This quarterly runs from three to four hundred pages per issue, and in a year every advance in the medical or surgical sciences (with their allied specialties) is noted. The list of

MUSCLE SPASM AND DEGENERATION IN THE INTRATHORACIC INFLAMMATIONS, their importance as diagnostic aids and their influence in producing and altering the well-established physical signs; also a consideration of their part in the causation of changes in the bony thorax and Light Touch Palpation. By Francis Marion Pottenger, A.M., M.D., LL.D., Medical Director of the Pottenger Sanatorium for Diseases of the Lungs and Throat, Monrovia, Cal. Price, \$2; 16 illustrations. C. V. Mosby Company, St. Louis, Mo.

SURGERY AND DISEASES OF THE MOUTH AND JAWS. A practical treatise on the surgery and diseases of the mouth and allied structures. By Vilray Papin B'air, A.M., M.D., Professor of Oral Surgery in the Washington University Dental School, and Associate in Surgery in the Washington University Medical School. With 384 illustrations. Price, \$5. C. V. Mosby Company, St. Louis, Mo.

contributors is especially strong, and an issue being of convenient size and of good print, its reading is anything but irksome.

It is obviously impossible to give all the subjects dealt with elaborate treatment, but we are confident that any one who will read this periodical thoroughly and regularly will know something of the many advances incident to our ever-growing profession.

The September issue contains a resumé of the year's literature on Diseases of the Thorax and its Viscera, including Heart, Lungs, and Blood Vessels by William Ewart, M.D., of London. Dr. William S. Gottheil deals with Dermatology and Syphilis, and of the latter he gives us the last word on its treatment with special reference to the newer arsenical preparations. Obstetrics is handled ably by Dr. Edward P. Davis, as is the Nervous System by Dr. William G. Spiller.

After several years of reading of this periodical, we are convinced that it will materially aid any physician to at least keep in touch with the latest advances in medicine and surgery and their allied branches.

J. F. GALLAGHER, M.D.

PELLAGRA. By Stewart R. Roberts, S.M., M.D., Associate Professor of Principles and Practice of Medicine, Atlanta College of Physicians and Surgeons. C. V. Mosby, St. Louis, Mo. 272 pages; 89 Special Engravings and Index. Price, \$2.50.

Pellagra is an endemic and epidemic disease, periodic and progressive in course, and characterized by a series of symptoms involving chiefly the digestive, cutaneous, and nervous systems. So Dr. Roberts defines pellagra and defends his position that pellagra is not contagious or infectious.

With a great deal of clearness he describes the symptoms, taking up the alimentary tract, skin, nervous system, and others.

In the treatment of Pellagra he likes Fowler's Sol., Sodium Cacodylate, and stresses hygiene.

Dr. Roberts does not attempt to give us the cause of pellagra or bring out any new theories, but states very interestingly the theories of the Ziests and the Anti-Ziests. He differs with Lombroso and takes sides with

Sambon as to the Etiology, but does not accept the Sambon theory in toto.

Lombroso, he says, firmly believed in the heredity of pellagra, but he mistook the degeneracy caused by pellagra for hereditary pellagra.

The author, following Cabot's presenting symptom method, says: "The presenting symptom of the initial stage is dyspepsia, in the confirmed stage is neurasthenia, in the desperate condition of late chronic pellagra is cachexia."

The author uses photographs, charts, diagrams, and case reports to good advantage.

Since the rapid increase of pellagra in the South, and especially the rural sections, it behooves the practitioner and the city diagnostician to become familiar with this disease both in the eruptive and the quiescent stage. This book is worth while.

JACK WITHERSPOON, M.D.

THE PRACTICAL MEDICINE SERIES. By Gustave P. Head, M.D., Chicago, and Charles L. Mix, Chicago. Vol. VI., **GENERAL MEDICINE.** By Frank Billings, M.S., M.D., and H. Salisbury. The Year Book Publishing Co., Chicago, Ill.

This volume is devoted to General Medicine, and is one of ten volumes published during the year by Drs. Head and Mix.

Because of the great mass of current medical literature published, it is an impossibility for the general practitioner to read all the best in his line, and a bound volume of abstracts, if well selected, will find for itself a ready welcome.

This number, Vol. VI., has chapters on Infectious Diseases, Diseases of the mouth and Esophagus, of the Stomach and Duodenum, Organic Diseases of the Intestines, of the Liver, of the Pancreas, and others.

The sections on Immunity and Typhoid are valuable reviews of recent experimental progress.

Diseases of the Stomach and Esophagus are discussed with special reference to diagnosis. The Gastroscope of Moure is described, and its operation pictured. The various test meals are taken up, their analysis described, and their value weighed. This number is well up to the high standard set by those preceding it.

JACK WITHERSPOON, M.D.

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VOLUME V.

NASHVILLE, TENNESSEE, DECEMBER, 1912.

NUMBER 8.

PERNICIOUS ANEMIA.*

BY W. H. WITT, M.D.,

Nashville.

Professor of Medicine, Vanderbilt University.

This paper is based largely on Cabot's Chapter in Osler's Modern Medicine.

Pernicious anemia owes its clear definition as a clinical entity to Addison, and a clear account of its blood picture to Erlich, and these two men have taught us nearly all we know of this disease. Addison spoke of it as an idiopathic anemia, and it must be confessed that we have gone very little beyond this acknowledged ignorance of its cause.

Certain predisposing factors are recognized, among which age is important; it is largely a disease of middle life or after. Its age is that of cancer, arterial degeneration and cirrhosis of the liver. Cabot says that the more closely we observe the disease at the bedside or in literature, the rarer do we find a typical case before the thirty-fifth year. The ratio is about six to one before and after that period. If we exclude cases occurring in pregnancy and post-partum, the tendency of the disease to occur after thirty-five is even more apparent. And there is good reason for excluding these pregnant and parturient cases from the true Addisonian group, for the reason that in pregnancy there is a cause for hemolysis in the antointoxication that results in eclampsia, pernicious vomiting and nephritis. In

the post-partum period there is sepsis and hemorrhage that may serve as etiological factors. Furthermore, if these puerperal cases are studied more carefully, it will be seen that though the blood picture was typical, they lack certain features of the true Addisonian type, in that some recover—or if fatal, they progress steadily to that issue and lack the usual remissions so characteristic of the pernicious type. Cabot reports a case that post-partum rapidly developed all the features of a grave anemia, with a typical blood picture of the pernicious form, except that there was leucocytosis. At autopsy a diphtheritic endometritis was found. In thus urging that we hesitate to place the grave anemia of pregnancy or post-partum state in the pernicious anemia class, I only wish to urge that all causes so commonly present under those circumstances be looked for and excluded; or if they are found, that the treatment be directed at once to their removal, and that we do not let the blood picture drive us to take a satisfying refuge in a diagnosis of pernicious anemia.

A blood finding of pernicious anemia has been found in a few cases of malaria and syphilis, but these diseases are not supposed to be the causes. The anemia so common in those infections, as in others, is of the secondary type. It is also best to exclude the cases associated with hookworm and other intestinal parasites; also those associated with recurrent hemorrhages, of course remembering that hemorrhage may be a result of pernicious anemia, but hardly a cause.

Hunter, of London, has held for many years that sepsis of the alimentary tract is responsible for all of the features of pernicious anemia; that absorption of toxins from the digestive tract is responsible for the hemolysis, and all other pathological changes that occur. Clinicians and

*Read before Nashville Academy of Medicine, October 1, 1912.

pathologists everywhere have failed to become enthusiastic over Hunter's theory, but the apparent lack of disposition to accept his idea of the etiology of pernicious anemia, has had no effect on his belief in the correctness of his views. He has only recently published a considerable volume, in which he sets up and defends the thesis that pernicious anemia is always a result of alimentary tract infection. He argues that so-called pernicious anemia—or Addisonian Anemia—should be called Addisonian Infective Anemia, and the term "pernicious" be dropped. That this type of anemia is usually engrafted on some other type of alimentary sepsis which would alone produce the usual character of a secondary anemia, but with this specific infection, whatever it is, the features of a more severe hemolysis develop. He says that staphylococcic and streptococcic sepsis of the digestive tract is very common and is seen most commonly in what we call oral sepsis—*pyorrhea alveolaris*—but that this alone causes none of the special features of Addisonian anemia, but does afford a favorite field for the development of the specific infection; that this specific infection gives us the clinical and pathological features of the disease, and without this extra specific infection there is no Addisonian anemia. Hunter makes much of the septic alimentary anemia that is very common, and prepares the way for the rarer specific type—but says that it is by no means pernicious anemia. He says: "A history of antecedent, oral, gastric or intestinal trouble associated with sepsis, extending usually over many years, more or less suddenly followed by a rapidly developing anemia, such is in my experience the typical mode of development of Addison's anemia." He says he can frequently trace the beginning of the pernicious type to a severe glossitis. The tongue, he says, with its recurring areas of inflammation, healing in spots and then breaking out elsewhere, gives the best index of the disease and shows the typical pathology. There is often a glazed or varnished tongue with fissures and patches of more or less preserved epithelium, and he regards these changes as also commonly found in the stomach and the intestines, and that they are really neurotrophic changes following infection. Other results from infection are spinal cord changes, which he holds are universal in pernicious anemia. Hunter seems to hold to the

view that the specific infection occurs from sewage. Finally, he asserts that Addisonian anemia is a specific infective disease; as much so and as clearly so as scarlet or typhoid fever.

The influence of season, climate, social condition, or over or under-feeding has no recognized place in the etiology. All the cases I have seen have been private cases and people in good circumstances.

While effort is constantly made to clear the etiology of the disease, it must be said that no conclusive argument has been adduced in favor of any agency, and our position is very much as it has been for many years—that pernicious anemia (so-called Addison's idiopathic anemia) is a disease of unknown origin; that, in fact, ignorance of a cause is one of the important factors in establishing a diagnosis. Knowledge of the causes of severe anemia has been extended, and many cases of a grave type, with a suggestive blood picture, have been discovered to be due to intestinal parasites or other causes, but the fact remains that the cause of that type of anemia so well pictured by Addison is as obscure as ever.

PATHOLOGY.

Antemortem examination of the blood of a patient with pernicious anemia discloses a marked hemolysis, the nature of which will be referred to later. At autopsy, pathological changes are usually found in the spinal cord, in the marrow of the long bones and in the cells of the parenchyma of certain organs. The blood changes, the spinal cord and parenchymatous changes suggest and are believed to be due to some active toxin, the product of bacterial or other processes. The bone marrow changes are now generally, but not universally, thought to be not pathological in the ordinary sense, but physiological in that they represent the attempt of these blood-making structures to meet, though unsuccessfully, the call on their capacity to supply the fearful loss going on elsewhere in the system. So that in the true sense, the disease is not one of the blood-making organs at all. It probably would not be profitable to review the argument made to prove that the marrow changes are not the cause of the disease, but only the natural result of a physiological demand. A contrary view—that the bone marrow changes are primary to the hemolysis—is held by some in-

investigators. The fat of the bone marrow is replaced by active blood-forming tissues, closely resembling that found in fetal life. In typical cases, the marrow of long bones is red throughout.

The fatty degeneration of such organs as the heart, kidney, liver, the unusual amount of blood pigment found in the spleen and liver and changes in the size of the latter two organs are interesting, but not especially peculiar to this disease. True, Hunter says that the great amount of pigment found in the liver argues that the blood destruction is directly associated with the alimentary tract—but this position is not held by others.

The changes found in the spinal cord vary in degree and extent, but not much in kind, and, according to Hunter, at least, are always present; but of ninety-six cases reported by Cabot, in which cord examinations were made, fourteen were normal. In the majority of the cases the chief lesion is in the posterior columns of the cervical region, and consists of degeneration with sclerosis; the dorsal region is less often involved. The lateral tracts are not so much affected with sclerosis as the posterior columns, but are often found with similar changes. The above-mentioned changes, together with the intense yellow of the fat, the redness of the muscles, serous effusions and small hemorrhages make up the usual findings in pernicious anemia.

The progress of a case of pernicious anemia is very variable; made so largely by the remissions that are such a common feature. Cabot says: "Probably in a great majority of all cases, the disease is not progressive, but is interrupted by one or more remissions in which the symptoms more or less entirely disappear." The number of remissions vary from one to five, though, of course, this is difficult of accurate estimation. Most cases show one or two more or less complete and prolonged respites from the more serious symptoms. Strange to say, there is no constant relation between the symptoms and the blood count, and some cases improve in feeling with a steadily declining quality of the blood. This, however, is not the rule. The length of the period of severe symptoms and of the improvement vary greatly. The great majority of remissions are over three months, but less than a year. A few cases are of longer periods of

improvement, which may give rise to the hope that a cure has resulted. Next to the blood picture, well authenticated remissions constitute the strongest element in a diagnosis of pernicious anemia.

In the more severe cases, whether between the remissions or near the end some of the symptoms enumerated come more to the front. These are shortness of breath, extreme pallor, palpitation, fever, edema, hemorrhages—especially retinal hemorrhages—diarrhœa, mental aberration, delirium, progressive weakness, weak and rapid pulse, and death from exhaustion. It is remarkable how very low these patients may become and then rally.

The duration of the case varies greatly, from a few weeks to six or seven years. The majority die in three years from date of diagnosis, but many in less than a year. Rarely, one seems to recover. Cabot thinks he has seen six recover. Six out of 1,200 only serve to accentuate the fearful mortality.

The symptoms are very complex. The majority of patients found to be suffering from pernicious anemia come complaining of loss of strength, general weakness, and the onset of the disease has been so insidious that they can give no definite idea of how long they have been ill. A patient will say that for several months or weeks he has noticed that he has been losing vitality, that he is easily wearied. On questioning, we learn additional facts that probably had not intruded themselves on his attention. Among these, the chief are loss of color, nausea and vomiting, diarrhœa, indigestion and loss of appetite, shortness of breath, palpitation, swelling of the feet and numbness and tingling in the legs and arms, and fever. Among rarer symptoms are headache, vertigo, nervousness, irritability, hemorrhages from mucous membrane, difficulty in walking, or in mental concentration. While general weakness is the presenting symptom, in the majority of cases practically any of those mentioned may be first complained of and relief sought. This applies especially to symptoms referable to the gastro-intestinal system, cardio-respiratory system, and nervous system. The great majority of the symptoms are in no way peculiar to pernicious anemia, but are recognized as occurring more or less constantly in secondary anemia and many diseases not asso-

ciated with any marked blood changes. Cabot lays especial stress on the presence of gastro-intestinal symptoms as very strongly suggesting the true nature of the disease. Paroxysms of pain in the stomach, with or without diarrhoea, he says, occur in seventy per cent of his cases. These attacks often alternate with perfectly good digestion, and no clear indication of why they occur is manifested. It has often been noticed, too, that a patient will improve after one of these attacks of diarrhoea. Diarrhoea in some cases is steady, but not in many cases, I think, exhausting. Diarrhoea has been a marked feature in three cases I have seen recently. One of these cases I may say was not typical, but enough so, I think, to feel sure of the diagnosis. This patient is in fairly good health, but I understand still has a moderate diarrhoea. His stools are negative.

Sore mouth, including the tongue, as well as other portions of the cavity, are not infrequent, and especial stress is laid on this by Hunter as expressing the visible attack of the specific infection. This combination of sore mouth with diarrhoea may lead to a diagnosis of pellagra, especially if nervous symptoms are present. The redness of the tongue and buccal mucous membrane may be extreme. Of 372 cases in which the condition of the mouth was noticed, soreness of the mouth was found in 159. In many cases there were ulcers. Notwithstanding gastro-intestinal symptoms, most cases of pernicious anemia have a good appetite and good digestion.

THE GENERAL NUTRITION.

One mark of distinction between idiopathic and secondary types of anemia is the absence in most cases of any marked loss of flesh. In Cabot's 1,200 cases, forty per cent lost considerable weight; in the remainder it was slight or negligible. The cases I have seen have nearly all lost moderate weight; but in every one there was not at the time or there failed to develop the loss of flesh common to other diseases producing great anemia. The subcutaneous fat is notoriously well preserved in many cases. The preservation of flesh with such evident anemia is a striking feature of the disease.

COLOR AND APPEARANCE.

The color of a patient with advanced pernicious anemia is noticeable. The lemon-yellow

tint so often mentioned is not constant, and yet it is so suggestive that it should not be allowed to lose its importance simply because it is not constant. In the early stages, the color may not suffer, for with a high index and a fair number of red cells there is no reason for great change. Many cases have a kind of ruddy appearance about the face, and yet the covered portions of the body and the mucous membranes will show pallor. A brownish tint is found in a few cases, and in some the mucous membrane of the mouth is discolored. Many cases simply have the pallor of ordinary anemia, without the lemon-yellow tint.

THE BLOOD.

The blood of a patient suffering with pernicious anemia is so characteristic that when found, one is not apt to go astray in making the diagnosis from the blood alone. Most all cases when they present themselves show a blood count very low, usually below two million. The cells in a stained specimen show a remarkable variety of shapes and are usually larger than normal; some, however, are smaller than normal, but the general average is large. Normoblasts, red cells of apparently normal size with highly stained nucleus, are also found in nearly all cases, and their presence goes far to confirm our suspicions of pernicious anemia. These blast cells represent the effort of the marrow—the erythroblastic tissue—to overcome the loss by hemolysis; these large, immature cells being rushed into the general circulation. Megaloblasts, particularly, being so important a part of the blood picture, should be sought for at subsequent examinations if not found at first in a suspicious case. The amount of these embryonic cells in the peripheral circulation will vary from day to day, and in this way may fail to be seen in a single slide. The number of blast cells and the oversize of the average cells no doubt account for the next almost constant feature in well-developed pernicious anemia; namely, a high-color index. In a general way, too, the lower the count and the greater the effort of nature to rush large but immature cells into the circulation, the greater will be the index. It has often been observed that during the improvement period of this disease, the hemoglobin and number of cells will closely correspond, whereas in the stage of greater poverty, the proportion of color is distinctly

high compared with the number of cells. In fact, during the improvement stage, probably half of the cases may have an index below rather than above normal. An examination of the blood under such a condition would probably give no clue to the diagnosis. The white cells are not without importance. Most cases show a sub-normal count during the worst stages of the disease, but in probably fifty per cent of the cases it rises to normal or above during the remission, and in probably five per cent of the cases a distinct leucocytosis is observed. The differential count shows a relatively small proportion of polynuclears and a large proportion of lymphocytes, the essential change being fewer polynuclears.

It is not denied that the blood picture as here drawn is found in no other conditions than pernicious anemia, and it alone does not actually justify a diagnosis of pernicious anemia, and, as said before, this is found in intestinal parasitic diseases and also probably in malaria, cancer and hemorrhage. Cabot, however, insists that he has seen no case of secondary anemia conforming to the above type, and most of those so reported in the literature will not bear close scrutiny. He admits, however, that certain perfectly competent observers have found blood of these characters following other diseases.

I may here insist on the value of an examination of a stained slide. A competent observer may go far toward a diagnosis of pernicious anemia by this means alone. It also furnishes a definite indication as to whether more complete examination of the blood is necessary. The slide will show the size of the cells and their varied shapes, but more important, it shows megaloblasts and normoblasts. When observed during routine examination, these findings at once suggest a search for the other features of the disease.

PHYSICAL EXAMINATION.

The ordinary physical examination of a case of pernicious anemia may give much or little information. In the so-called typical case, a lemon-yellow color, well preserved subcutaneous fat, evident weakness and shortness of breath, the diagnosis may almost be made by simply looking at the patient. Such a diagnosis, however, is not to be recommended. Cases presenting more marked loss of flesh and less of the peculiar color, joined with definite symptoms re-

ferable to certain organs, demand a more thorough examination before even a guess at the diagnosis is made. A fair proportion of the cases present a rather flushed countenance and some a definite bronzing of the skin. In practically all cases the mucous membranes will be pale; in many cases, excessively so. The mouth in a few cases shows diffuse inflammation and pyorrhœa is common.

The lungs are negative, but the heart almost universally exhibits a systolic murmur, heard usually over a very wide distribution. Cabot says he has never failed to find a murmur. The heart is often slightly dilated, but this has no diagnostic value. The blood pressure is low and the blood vessels very elastic and exhibit marked pulsations. The liver and spleen show no definite signs, but the spleen may be enlarged.

The knee jerks are weak or absent, but if there is much involvement of the lateral jerks, they may show an exaggeration. The urine is usually pale and abundant, though it is occasionally high colored. The feces are negative, but the stomach contents show a low or absent H Cl. The great majority have fever at some time, and it may be present over prolonged periods. The blood exhibits the features above described.

TYPES APT TO BE OVERLOOKED.

The cases in which disturbance of the alimentary tract is prominent, whether it be sore mouth or tongue, gastric distress or diarrhœa, are quite apt to come complaining of these features before the muscular weakness is so well advanced. It is just this type of case that is most likely to lead us into error. If a man some sixty years of age comes complaining of gastric and intestinal disturbance, loss of strength and loss of weight—for in these alimentary-tract cases there is nearly always loss of weight—we think at once of cancer of the stomach or bowel; add to this anemia, evident to the eye, or by test, negative urine and deficient H Cl., and we think, on superficial examination, that there is little needed to warrant such a diagnosis. The three cases of this type that I have observed in the last two years presented little of the typical appearance of cases of pernicious anemia. In only one was there any marked appearance of anemia.

Another group presenting symptoms likely to mislead, includes those that come complaining of shortness of breath, or palpitation. Here, the

rapid heart, low blood pressure, systolic murmur, swollen feet, albuminous urine—which is fairly common—may lead one to a careless diagnosis of chronic endocarditis, or even of nephritis; or, if the fever is present, subacute endocarditis is our easy diagnosis.

Cases with some tendency to mislead are those occasional ones that are jaundiced. I am inclined to think these are rare, but they do occur. No doubt the mistake is made of regarding a peculiar tint as that of jaundice, especially if bile is found in the urine. Such was the case in a man sent to this city for operation for gall stones. This man had some epigastric distress, marked lemon-yellow hue, yellow conjunctiva; but to my eye, not the color of jaundice. Under his clothing, pallor—not jaundice. There was the typical blood picture of pernicious anemia, and careful questioning gave little support to the theory of gall stones.

A fourth group in which the diagnosis may quite escape us, includes those in whom the nervous symptoms predominate. We may divide the cases of pernicious anemia in three classes as regards spinal cord symptoms: (1) Those in which nervous symptoms develop in the course of a recognized case—usually relatively late. (2) Those that present nothing beyond parasthesiæ. (3) Those in which the cord symptoms dominate the picture. These cases come with troublesome parasthesiæ, girdle pains, bladder symptoms, or ataxia. A neurological examination brings us to the conclusion that we have a tabes or a combined posterior and lateral sclerosis. Unless anemia is startling, we are quite apt to overlook the real diagnosis. A negative Wasserman should go far to set one right in such a case.

It goes without saying that a positive diagnosis of pernicious anemia should not be made unless it is clear. The word "pernicious" is too sinister in its fateful meaning to be handled lightly; but in suggestive cases, showing no other adequate pathology, the gloomy outlook that is probably ahead should be explained to some one for our own protection.

DIAGNOSIS.

Cabot says:

When a physician is consulted by an elderly person, usually of the male sex, who complains

particularly of long-standing, gradually increasing weakness, with dyspnoea and a marked pallor of yellowish cast, and when on physical examination we find that the patient has lost but little flesh and presents no notable lesions in his internal organs except the evidence of an intense anemia and the results of this upon his cardiovascular system, then we are justified in suspecting that we are dealing with a case of pernicious anemia.

This suspicion is confirmed and made positive by finding in the blood (1) a reduction of reds to less than two million; (2) a high-color index; (3) a normal or subnormal leucocyte count; (4) in a stained slide a predominance of large, deformed and abnormally stained red cells, some of which have nuclei.

The diagnosis is still further confirmed if the course of the disease shows one or more remissions in which the symptoms and the blood changes more or less completely disappear.

TREATMENT.

Treatment is a matter of some importance, even in a disease whose certain trend is to death.

1. Rest in bed—especially during the severe stage.

2. Abundance of fresh air and good food, as, fortunately, the digestion is usually good. The fever and albumin in urine should have little or no effect on the diet.

3. Arsenic holds first place as a drug that certainly seems to do good in many cases. Fowler's solution to tolerance; Atoxyl and other modern preparations may be tried. Salvarsan has been used some, and with apparent good results; Byron Branwell, of Edinburgh, is strongly in its favor—and his advice is usually good. I should certainly recommend its use in a recurrence, or one that does not respond to ordinary treatment. Large doses of hydrochloric acid are rational, and said to do good for a while. On Hunter's theory of sepsis, the acid is especially indicated, for a good supply of HCl is pretty well proven to supply the best quality of asepsis of the intestine.

Careful attention to the mouth is advised, especially by Hunter.

Injection of defibrinated blood serum has met with temporarily good results.

These things and a never-lose-heart temperament constitute our best therapeutic agents.

PRECANCEROUS LESIONS.*

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Before the varied phenomena observed to arise from the pathological course of any disease can be understood, it is necessary that the cause of that disease be known, as indeed the underlying principles of phenomena in general must be closely studied before their multifarious manifestations can be clothed with an intelligible significance. Otherwise the whole group of facts may be accepted as so many disjointed items, or the idea may be made to comprehend more than the facts warrant, as indeed has been done in connection with this very subject of cancer which I am to discuss tonight.

It has been stated above that it will be necessary to understand the cause of cancer in order to study intelligently the significance of precancerous lesions, or, if you please, the beginnings of cancer.

There have been two theories of the origin of cancer, each of which has had its most ardent advocates, and each in its turn failing of substantiation; the vestigial cell theory of Conheim, because even if we should strain a point and admit that every cancer originates from foetal epiblastic and hypoblastic anlagen—an assumption that is obviously not demonstrable, although there might be considerable circumstantial evidence in its favor; and the bacterial or parasitic theory which has no foundation in any fact whatsoever, and was only a conclusion jumped at by investigators eager to learn the cause of cancer, and stimulated by the brilliant discoveries revealed by similar studies in the etiology of other diseases. This theory is discarded by practically all serious pathologists at the present time, because the various things that have been hastily described by enthusiasts as causative micro-organisms have uniformly been demonstrated by

some one else not to be living things at all; because the cell growth found in cancer is altogether and utterly unlike that in any lesions known to be caused by micro-organisms; and because a definite, rational, satisfactory explanation has been suggested, which does not suppose anything, and which is based on the study of great numbers of beginning cancers: it is Ribbert's explanation, and he contends with the most justifiable reasoning, that if you would understand how cancer begins you must study it when and where it begins. That cancer always behaves as a parasite there can be no question, but it is the cancer cells themselves which have so changed from their former estate that they assume this role with varying avidity toward the remaining body cells, and not by virtue of the introduction of alien elements into the tissues.

Ribbert's view of the origin of cancer as elucidated in his recent work entitled *Das Karzinom Des Menschen* is, briefly, as follows: Every tissue has its proper place in relation to other tissues, and as long as the structures remain normal cannot transgress the limits set for them. In the relation between epithelium and the subepithelial connective tissue and between the mucous membrane and the submucous connective tissue these lines are rigidly drawn, so that, whatever cause may produce a proliferation of the epiblastic and the hypoblastic cells, it can only result in the accumulation of such cells in a mass on the surface in question, but never in the penetration of that tissue which serves as a basement membrane, and therefore never in the production of cancer. Something more is necessary than an increased capacity on the part of cancer cells for multiplication. In every case of beginning cancer studied by Ribbert—and his work has been borne out by other investigators—an explanation was found for the invasion of the subjacent connective tissue not in the epithelial cells, but in the changes brought about in the connective tissue itself as the result of an inflammatory process, constant in appearance and produced by irritation, which reduces the protective powers of this connective tissue against the ingrowth of epithelial cells and at the same time stimulates the epithelial cells to an abnormal proliferation. The irritant which produces this inflammatory process may be either mechanical, chemical, bacterial or electrical. The nature of the irritant is immaterial, the fact that

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it may cause changes which admit of a rational and unexceptionable explanation of the origin of cancer, and that these changes may be identical in character and in results, is all important. The epithelial cells from which the cancer arises may be normal epithelial cells and in no way related to foetal anlagen. There may be epithelial cells found in benign tumors or in foetal remains retained in the body, and these are presumably stimulated to cancer formation all the more easily because of their retention more or less perfectly of their embryonic characteristics.

This explanation of the origin of cancer is the first I have seen that satisfies the demands of the case and supports them with demonstrable evidence; furthermore, it does not invoke a lot of new and unimaginable data to establish it, which have not a single supportive fact at harmony with the known physiological or pathological behavior of cells.

Cancer originates from new growths which have resulted from developmental disturbances. Of these may be mentioned atheromata, epidermoids, dermoids, teratomata, embryomata, and polypi of the alimentary tract and of the urinary bladder, and from adenomyomata and mammary adonomata.

Quite a few cases of cancer have been reported which arose from the epithelial lining of atheromata, or sebaceous cysts. They are more frequently found on the scalp than elsewhere, one reason at least for which is the frequency with which these cysts develop on the scalp. The malignant tumor starts not from a conversion of the whole mass of lining cells into cancer cells; but, as always happens in the origin of cancer elsewhere, from a point situated somewhere on the lining membrane. From this the cancer fills the cavity of the cyst and then proceeds to develop along the lines usually seen in cancer cases. The type of cancer which originates from atheromata is usually the cornifying squamous celled epithelioma, although non-cornifying and transitional cases have been observed.

Teratomata, or embryomata, are also often the starting point of cancer, which, it is thought, have in themselves no more tendency and no greater provocation toward malignancy than similar normal tissues except in so far as, being of a more undifferentiated type, the cells may be more easily provoked to abnormal proliferation.

Ribbert is "of the opinion that the malignant tumors of the testicle and the ovary (as well as many benign tumors) originate for the most part from embryomata and by their growth obliterate the remaining structures of the organ, or that in these cases we are confronted with unilateral teratomata." The reasons for such a conclusion would require too much time to be given in detail, but may be summed up in the statement that individual malignant tumors of the testicle and the ovary show characteristics which could not be explained by the wildest flight of imagination on the hypothesis that they have originated from normal testicular or ovarian tissues, and that the variety of growths so variously classified, but doubtless much more closely related than the classifications would indicate, are explainable only on the hypothesis that these tumors found their origin in abnormal embryonic inclusions. So, too, the cancers which originate in ovarian cysts (usually in cystadenomata) show evidence of their origin from embryonic structures found in these organs.

The origin of carcinoma from definite mammary adenoma has not been observed by Ribbert, although he admits the possibility of such an occurrence and duly recognizes the cases reported by Eilrich, Kuru and Tietze; he impresses the rarity of the occurrence, and that the normal breast tissues are much more subject to the causes which produce cancer than the tissues of a well encapsulated adenoma, and that cancer much more frequently arises from the former than from the latter. On the other hand, cancer arises with relative frequency from intestinal polypi, and from papillomata of the bladder; and very occasionally from adenomyomata of the uterus. Stoerck makes the broad assertion that no papilloma of the bladder should be considered benign, while Cullen claims that there is no such thing as true adenoma of the uterus, but that all such are malignant.

Cancers arising from unobliterated foetal remains appear typically in connection with the bronchial remains and misplaced tooth cells, and in the remains of the tract leading from the hypophysis to the mucous membrane of the nasopharynx. The adamantinomata studied by Erdheim and others belong to this group, and so do the cylinder-celled cancers arising at the navel from the remains of the omphalomesenteric duct.

The occasional colloid cancers of the peritoneum are also supposed to belong to this group, misplaced cells being derived from the mucous membrane of the alimentary tract.

It is interesting to note that the small number of cancers positively demonstrated in individuals under fifteen years of age occur "in precisely those organs which are most subjected to irritation or equivalent disturbances, namely the skin from which cancers arise significantly often in the wake of *Xeroderma pigmentosum*, the alimentary tract, whose conditions are only slightly different from those of the adult, and the ovary, which is influenced by the changes coincident with puberty." "On the contrary, cancers are wanting in children in organs which are in adults subjected to definite irritation, namely, the uterus, the gall-bladder and the œsophagus."

After referring to his previous statements that misplaced and anomalous epithelial structures which have already been referred to in this paper can produce cancers only when something has acted upon them in a definite manner and produced definite changes, Ribbert makes the following statements: "But it was furthermore stated that so far in the vast majority of cases the existence of misplaced or otherwise isolated cells or other developmental anomalies are not yet demonstrated. And if one should also raise the question as to whether by further investigation embryonal disturbances would not be discovered as the foundation of carcinoma-genesis, still there can be no doubt that cancer can originate independently of them. It has long been admitted that external agencies, which are briefly spoken of as irritants may suffice in and of themselves to induce the development of cancer."

These causes are divided into two groups.

In the first group belong the cases in which a definite characteristic, mostly also a typically localized influence is concerned, in consequence of which the development of cancer occurs either with great preponderance or at least often. "And to be sure the connection is so impressive that one may say with all assurance that without the irritant and the changes it caused, cancer could not have developed. In these cases the etiological significance is manifest."

"The second group comprehends the less certain cases, in which, to be sure an external influence is accepted, but in which it is less charac-

teristic, and is not repeated typically in a series of cases, and in which the space and time connection between the agent and the subsequently developing cancer cannot be established with certainty."

"Manifestly also there are additional cases which can be classified with neither group without comment."

Leukoplakia of the mucous membrane (and of the skin) is most frequently and most typically found in the mouth cavity, on the tongue, on the buccal mucous membrane and on the mucous coating of the lips. The affection is known also as keratosis, psoriasis and ichthyosis. It occurs in smokers, alcohol drinkers and syphilitics. Some authorities, especially the French, claim that it occurs only in syphilitics. Others claim that it develops in syphilitics who are addicted to alcohol, irritant foods, or smoking. Cancer develops very frequently on the site of these leukoplakial spots. Fournier claimed that cancer of the tongue developed only on the tongues of syphilitic smokers. Horand, going still further, claimed that syphilis predisposed to cancer in general. Botini observed 100 cases of cancer of the tongue of whom every one was a smoker or a chewer of tobacco. The influence of tobacco in the production of mouth and lip cancer has been established by others. Brandy drinking also plays an important role. Leukoplakia of the penis is followed by cancer in the same manner, although it rarely appears on this organ, and seems to sustain a similar relation to syphilis. In leukoplakia, or kraurosis vulvæ and vaginæ the same malignant tendency is shown.

We have all heard of the production of cancer of the scrotum in the chimney sweepers of England, until we could imagine great hosts of them dying of it; as a matter of fact, only 47 cases are recorded. There can be no doubt about their occupation causing the condition through the irritation produced by the soot. Belonging to the same class are those cases in which the causative irritant was tar or paraffin. Tillman described a case in which the cancer originated on the scrotum and then appeared on the forearm, the two sites especially affected by soot-cancer.

In cancer of the gall-bladder there are exceedingly few cases that do not show the presence of stones. Marchand found them in every case. Futterer collected 268; observations of

these, 209 had gall-stones, and of the 59 remaining the presence or absence of stones was frequently not mentioned. Siebert found stones in 94 of 99 collected cases; they were not mentioned in two, absent in three. Treutlein found them in 99 out of 103 cases. Gall-stones are much more common in women; cancers of the gall-bladder occur in the same proportion. It is practically certain that gall-stones are responsible for more than 90 per cent of the cases of gall-bladder cancer, if not indeed practically all of them.

Von Bergmann has made the broad assertion that cancer never occurs on the extremities without the previous existence of scars, fistulae, eczema, seborrhœa, warts or moles. Volkmann makes a similar statement. Von Bruns concluded that the majority of cancers occurring on the extremities developed on the sites of inflammatory processes, and only a small minority of them at the site of a former single trauma. Hawkins first called attention to the fact that carcinomata occurred in the scars left on sailors by severe flagellation. McPherson made similar observations. Von Bergmann observed cancer of the buttock arising in a scar resulting from a burn. Von Neve, in India, studied 1,720 malignant tumors; of these, 848 were cancers of the thigh and abdomen, which resulted from scars produced by the custom of carrying baskets of fire under their clothing. Similar observations were made by numerous other observers. The number of reported cases arising from sinuses is far above one hundred.

The origin of cancer on surfaces affected by lupus has long been known. It seems that it originates with about equal frequency from active lupus and from the scars remaining after the lesion has healed, although there are some who claim that the majority of cases arise from the scars, while others assert that the weight of evidence is in favor of the active condition. The condition is exceedingly rare. Borrmann saw only one case of cancer arising from lupus in 253 skin cancers.

Xeroderma was first described by Kaposi. It has been asserted by Unna that xeroderma pigmentosum is an exquisite carcinomatous disease of the skin. A similar condition develops on the skin of sailors, which has been termed seaman's skin, which likewise is a favorite antecedent of cancer. Still another similar antecedent of cancer

is found in cases of prolonged use of arsenic. There forms in these, a kind of inflammation of the skin associated with hyperkeratosis, and cancer originates from this condition. Such cases are rare nowadays, but were observed in large numbers by Hutchinson. In these cases the dermatitis serves as the foundation for carcinoma, the arsenic excites the skin affection and thereby indirectly influences the origin of cancer.

The association of cancer of the stomach with gastric ulcer has long been the subject of many discussions for and against with, it seems, gradually increasing numbers of such cancers attributed to ulcer, until now some of the estimates suggest as high a percentage as 70 to 80 per cent. Regardless of the percentage, we may accept it as a practical fact that any chronic ulcer of the stomach or any cicatrix resulting therefrom may develop a cancer, and on the contrary that easily a majority of the cancer cases were preceded, and, may I say, caused by ulceration.

Among the recent and most pitiable forms of cancer are those produced by the action of x-rays and radium. This agent produces the disease in the same indirect manner as those already discussed. First, there is the x-ray burn. Then comes an increase in the horny layers and keratosis, and the skin becomes dry and fissured. It is a noteworthy fact that the tumors usually begin only long after the cessation of x-ray treatments; the interval may be several years. The significant fact here, as elsewhere, as was outlined in the beginning of this paper, is that here as elsewhere the tumors originate upon tissues in which a chronic inflammatory and degenerative process occurred in the subepithelial tissues. Ritter asks the question: Upon what does the inflammation depend? Certainly not upon the x-rays, for the inflammatory process should, in keeping with its kind, subside when the cause is removed. In these cases, however, it may continue indefinitely, and is explained as follows: "The Roentgen rays influence the function of the skin so that cornification is modified and the horny masses cannot be thrown off as they formerly were, but are heaped up to form a keratosis. This then leads to a subepithelial inflammation, and since this naturally develops slowly, it can only after a long period of time arrive at the stage of cancer formation. X-rays, therefore, work in an indirect manner."

Bilharziasis is another frequent and instructive cause of cancer, which in these cases invariably occurs in the urinary bladder. It is relatively frequent in Egypt. The condition has been studied by Harrison, Virchow, Albarran, Kartulis and Goebel. Kartulis found cancer of the bladder in 3.1-3 per cent of his cases of bilharziasis, and Goebel found it in 4.3 per cent of his cases. "The eggs of bilharzia hæmatobium caused sometimes granulation masses which resembled tumors, rarely sarcoma, sometimes epithelial tumors, among which Goebel found only one benign growth. The rest of them were cancers. Goebel investigated 19 of them and found that seven were ordinary solid carcinomata, eleven were squamous celled carcinoma, and one which was undergoing colloid change a cylinder celled cancer." Bilharzia may produce cancer of the prostate and rectum, according to Kartulis.

Finally, I quote as illustrative of the second group: "The single contributions are now so numerous that it is impossible to cite all of them. I must confine myself to citing those cases which are well founded. Stoerck, Zuckerkandl, Heusinger, Bergenheim, Ehrlich and Hager have reported cases of cancer in exstrophy of the bladder; Hegar, Kaltenback, A. Meyer, O. Schmidt, Winckel cases of carcinoma of the vagina from irritation by a pessary; de Ruyter and Fraipont one case of mammary cancer in which one sewing needle was found, and another in which two were found; Steinhaus and Schmidt a case of cancer of the wound which resulted from the application of vesicants; Janeway a case of cancer following repeated application of carbon dioxide snow to lupus erythematoses; Janeway cases of cancer of the penis in those who have close foreskins and enforced uncleanness in contrast with those of people who are circumcised; Pernice cancer of the navel in filthy individuals; Pieperkoff cancer of the oesophagus in alcoholics; cancer of the mouth among the Indians and Ceylonese who chew betelnuts, which act similarly to tobacco; cancer of traction diverticula of the oesophagus, two cases."

THE CONSIDERATION OF THE ADVANTAGES AND DISADVANTAGES OF NITROUS OXIDE AND OXYGEN ANAESTHESIA FROM A SURGICAL VIEWPOINT—REVIEW OF LITERATURE.*

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Probably more thought is given today, in the selection of the anesthetist, the agent to be used, and the manner of its administration by the best surgeons of the world than ever before in the history of medicine.

No one can question the fact, that the man who specializes, or who makes a study of anesthetics, is the best man to administer the agent selected, but we have a difference of opinion in selecting our agent and its mode of administration. We will probably have to decide in individual cases, which is the best agent for that particular case, but we should be more uniform in our opinion in deciding upon which agent is the best in the majority of cases. I will only discuss ether and chloroform in so far as they relate to nitrous oxid and oxygen as anesthetics. Nitrous oxid with oxygen deserves a place among the anesthetics, which is not (I believe) properly appreciated by the majority of men doing surgical work today.

We have left this valuable agent (NO) to our brother, the dentist, to use and appreciate its real merits for a number of years, and it has only been within recent years used and extolled as an anesthetic in minor and major surgery (and then by only a few surgeons, comparatively speaking).

Over one hundred years ago, Sir Humphrey Davy recognized its pain-relieving properties, but it was left for Horace Wells in 1844 to try

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to demonstrate its virtues as an anesthetic. It was used after this time with air, as an anesthetic for the extraction of teeth, etc., but it was left to Edmund Andrews, of Chicago, in 1868, to combine with it oxygen, and prove that with this agent, nitrous oxid could be given for a long time with safety.

Teter, Hewitt and others have shown that when given with the proper percentage of oxygen, it is probably the safest anesthetic known. As a test of its virtues, Martin, of Lyons, gave a dog nitrous oxid with fifteen per cent of oxygen, for three days and three nights.

The dog opened its eyes in fifteen minutes after leaving off the anesthetic, in a little while was able to take nourishment, and on the following day walked and ate naturally. No harmful effects followed the administration.

Hewitt could only find thirty deaths in forty years from its administration.

Bellamy reports four million (4,000,000) anesthetics with it in England in four years with no deaths.

Thomas, of Philadelphia, gives statistics covering two hundred and seventy-five thousand (275,000) with only one death, which occurred six hours afterwards from apoplexy.

Kearney says he can find only one death which he can put down as a death from nitrous oxid and oxygen.

Teter and Miss Hodgins, of Crile's clinic, report over twenty thousand (20,000) cases with one death, which had a violent myocarditis and valvular lesion, which died six hours after its administration. Hewitt reports over fourteen thousand (14,000) with no deaths.

Allen reports a death from a violent uraemic condition.

A great many of the above cases were cases where nitrous oxid was used alone, and a great many were desperate cases, where other anesthetics were contra-indicated.

If anesthesia is produced properly, in from one to four minutes, by a competent anesthetist, your patient passes quietly under its influence, without (usually) a sound or movement of any kind, but if you produce asphyxiation you will have venous congestion (cyanosis), jactitation, stertorous respiration, etc.

It is very unusual to have my patients lose their pink color (rarely one may become slightly

cyanosed) when Dr. Cullings is giving the anesthetic, but he has at his command the only requisite oxygen, which changes them back in a second or so to a normal color.

The anesthetic should be always preceded by morph-atropine or scopolomine. I have always given morph-atropine. By giving these agents, your patient is quiet and goes under the anesthetic calmly, and you have suspended, as Crile so aptly puts it, "the ravages of fear, which is stronger than the will, and must be controlled by influences outside of the body."

You also have the absence of pain, which would naturally occur after most operations, where such a fleeting agent as N O is used.

By lessening fear and relieving the pain afterwards, you lessen shock markedly.

This agent produces its effect by entering the alveoli of the lungs, then the blood and lymph channels, and then it is carried to the nerve cells, where it causes a temporary cessation of their function by anoxemia—that is, by cutting off the oxygen to the brain cells, which are only responsive in the presence of oxygen (Crile).

If the gas is pushed too far, you have a paralysis of your respiratory and cardiac centers.

When your patient is getting an overdose of N O, you have a venous engorgement, a straining expiration (McKenan), slowed pulse with increased blood pressure, and if pushed too far the heart becomes overdistended. In the cases of death reported, we find respiration the first affected, and later the heart.

In Dr. Lydston's case the heart continued to beat for some time after the respiration ceased.

Allen says: "One of the most dangerous signs is loss of corneal reflex." In cases where an overdose has been given, leaving off of your gas and increasing your oxygen, is all that is usually required.

When the respiration is interfered with, Glover, Gatch, and others have shown that by re-breathing you have an increase in your carbon dioxid, which has been shown by physiologists to act as a respiratory stimulant; it also helps to regulate the heart's action, and gives tone to the blood vessels.

Henderson's suggestion of C O₂ being a stimulant in cases of shock has been elaborated upon by Levi of Italy, who reports favorable results in cases of shock (not due to hemorrhage) following its use.

Professor Bunce is said to keep on hand CO_2 and O in the Florentine University, and uses it in all cases which have been operated upon to increase the respiration and circulation, which in so doing causes a rapid elimination. It is also used in shock in emergency cases. Boothby, besides using the rebreathing method, also finds that a little ether added will also excite or increase respiration. Teter, Melbane, Kearney, and others speak in favor of rebreathing for the reason that you diminish the amount of gas used.

NO and O , as well as ether and chloroform, should be given warm, as first suggested by De Ford; especially is this true of the two latter, for irritation of the pulmonary structures is diminished, and besides, you increase, according to the experiments of Gwathmey and Meeker, their effectiveness twofold.

Ream and a few other observers state that it is not necessary to warm your gases (NO and O), because in rebreathing they are warmed sufficiently.

I think the experimental work and the clinical experience of professional anesthetists bespeak for warmer anesthetics sufficiently strongly, to warn us against having them administered otherwise. While I believe ether a very safe anesthetic (when given as a warm vapor), and while I have not had a death on the table when ether was administered, nevertheless I believe that we have in NO and O an anesthetic equally as safe, during its administration, without producing the post-anesthetic complications, such as bronchitis, ether-pneumonia, kidney lesions, fatty degeneration of the liver and other organs, and no acid intoxication, etc.

It has been proven by Graham that ether affects phagocytosis, thereby reducing the immunity of the patient from shock and infection. Crile and his assistants have proven from experimental research work that less changes take place in the ganglion cells of the central nervous system when NO and O is given than when ether or chloroform is administered.

Crile has also proven from carefully kept clinical records of one hundred and fifty (150) cases of acute infections where ether was used in one half of the cases, and NO and O in the other half, that the patients with NO and O did better in every way.

His summary in seventy-five cases where ether was given is as follows: The average pulse at the beginning of the operation was 114. Average pulse of first twenty-four hours, 117. Of the seventy-five cases where gas and oxygen were given the average pulse at the beginning of operation was 115; average pulse first twenty-four hours, 105.

The above shows an average increase of eight beats where ether was, and a decrease of ten beats where NO and O was given.

Teter has shown from experimental work that animals traumatized under NO and O resisted the injury four times better than those under ether.

Hamburger and Ewing claim that the hemoglobin is not reduced, and does not cause increased hemolysis. If any changes take place, they are transient and of no clinical importance.

Dr. Truck has shown from experiments upon animals that the following changes take place in the blood when ether and chloroform are given. That there is a loss in the anti-bodies or ferments of the blood, and that there is a diminished resistance to bacteria, such as agglutination of the precipitens and other substances, which he found in the anti-bodies in the blood.

It was found that these animals went into collapse, and that shock is induced very easily in animals that have a lowered condition of the blood, and there was a marked diminution in the anti-bodies, the ferments, the precipitens, and other substances.

He carried on a number of experiments, showing the above changes and the changes which take place in the serum.

He came to the following conclusions: That there is a direct chemical effect on the serum and other biological changes taking place, and acting on the cells as a toxin. None of the above changes were found when NO was given.

Teter and other anesthetists give NO and O to practically all kinds of patients without fear or hesitation, but some claim that alcoholics, the athletic, very nervous women, and those with myocardial or valvular lesions are not fit subjects for its use.

On the other hand, the anæmic, emaciated, infected, nephritic, and those with pulmonary complications are suitable subjects.

I have operated upon extremely neurotic women without the least trouble; they are more or less in the neutral state from morph-atropine which precedes the anesthetic, and they have in the cases I have had passed quietly under the drug without a struggle or sound. If Crile's experiments are correct, they are suitable subjects for the reason that we do not have any cell changes to take place, and therefore diminishes to a minimum the risk of surgical insanity or melancholia, etc.

I have operated upon people with organic lesions of the heart without any misfortune. I believe, however, that if your gas is not carefully given, that there would be danger in myocardial changes, and especially in cases where we have a sclerotic condition of the vessels. The danger would be in the engorgement, which might produce a rupture of a cerebral vessel and have death to follow.

In the athlete, where a laparotomy is going to be performed, muscular relaxation is of course not as complete as you would have in women with flabby abdomens, or with those who have diastasis of the recti muscles, and it may be much easier to perform your abdominal section by the addition of enough ether to relax, and then continue with your gas (if ether is not contra-indicated). On the other hand, we have in this agent an anesthetic which is not only pleasant to take, one which is followed by a minimum amount of nausea and vomiting, with no post-anesthetic complications, but one we can use where ether and chloroform are absolutely contra-indicated. It has been administered with impunity to those unfortunates afflicted with kidney lesions, pulmonary troubles, and to the infected and weak.

Buckler reports its administration to fifty patients with organic kidney lesions without harm. Teter has given it to pneumonia patients with seemingly good results.

In short operations, such as reducing dislocations, certain varieties of fractures, curettages, appendicular abscess, or to drain a wound, etc., it is an ideal anesthetic, for your patient does not experience the unpleasantness of going under your anesthetic, awakens before they leave the operating room, rarely has nausea and vomiting, and is not distressed by the smell of ether afterwards.

In infection from any source it should be the anesthetic of choice, for it does not lessen immunity nor produce any changes in the blood or any cell in the body.

It is very desirable to precede your ether or chloroform with gas when you have selected either of these agents, for you rid your patient of that unpleasantness he especially has from ether, and if the case happens to be a laparotomy, you can give enough ether to thoroughly relax your abdominal muscles, can then practically leave off your anesthetic; for we know from Lennander's and Mitchell's experiments that there are organs in the abdominal cavity, and the visceral peritoneum, which are practically impervious to pain. When you are ready to close your wound, give a little gas and produce analgesia, so your patient will not suffer, and be awake in a few minutes and feel all right.

In cases where it becomes necessary to repeat within a few days, ether or chloroform, you will find it very far superior to ether or chloroform for two reasons: First, because Offergeld and Müller have shown that ether and chloroform are twice as harmful when repeated within a short time; secondly, because patients usually thank you for giving them gas, because they are deprived of the objectionable feature of the commoner anesthetics, and will not object to being anesthetised again.

If N O and O are as safe as ether (and I think I have proven that they are from numerous observers), when your patient is under its influence, then there can be very little discussion about it not having advantages over ether or chloroform, from a post-surgical standpoint, because it has been proven that the blood nor any cell of the body is permanently changed, it does not interfere with the phagocytes—even animals stand traumatism better under it—you have less shock and no lessened immunity.

It is pleasant to take, seldom any post-nausea and vomiting, your patient awakens usually within three minutes, can take water and nourishment earlier, and you have none of the commoner post-anesthetic complications.

If we were only able to use N O and O for very short operations, and use it to precede and follow ether, we would have in it an agent for the accomplishment of much good to human-

ity. But it can be given without ether or chloroform for a long time without harm.

About the only disadvantages given by numerous observers are as follows: You must have the proper instrument to administer it correctly; the instrument is somewhat unhandy to convey from place to place; it is very expensive for long operations; and last, but not least, you must have an anesthetist who has a general knowledge of anesthetics, and one who is willing to study N O and O, and be at all times alert and careful. The cost of your anesthetic can be considerably lessened first by having a capable anesthetist; second, by having the proper instrument and giving your gas warm; third, by rebreathing; fourth, by having a gas plant for its manufacture, or by using very large tanks. I use the Teter apparatus, which has been entirely satisfactory.

In conclusion, will say that I believe that we, as surgeons, should avail ourselves of the many advantages afforded our patients by using gas and oxygen oftener, and not be like the man whom Woolsey speaks of as expressing himself as being satisfied with the old way; for he who can and won't stands condemned.

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FUNDAMENTAL PRINCIPLES OF PSYCHOTHERAPY.*

BY S. T. RUCKER, M.D., MEMPHIS, TENN.

"A merry heart doeth good like a medicine,
But a broken spirit drieth the bones."

This psychological law is as true today as when first proclaimed by the writer of the Proverbs, 3,000 years ago. It is a fact of common knowledge, which is confirmed by the experience of laymen, as well as physicians and psychologists, that certain morbid states of the mind are accompanied by various derangements of the functions of the body.

By "morbid states" I mean the character of certain thoughts one may harbor and permit to cloud the sphere of consciousness, thereby producing illogical doubts, fears, anxiety, anger, jealousy, hatred, and revenge. Such conditions of mind are so many malignant forces within us, poisoning the blood, exhausting nerve force and inhibiting functional activity of vital organs.

We sometimes see the power of thought, of this character, illustrated when emotional shock, incident to a great sorrow or disappointment, in a short time so changes the personal appearance of a man that his friends scarcely recognize him, and so depreciate his vital forces that he may be unfitted for business or social duties. It is not the sorrow or disappointment, *per se*, which wrecks his hope, happiness and health; but

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morbid reactions in the psychic centers; a destructive hurricane of thoughts refusing to be calmed or reconciled.

Furthermore, in certain persons, the mode of mental activity I have described, when permitted to continue, produce various nervous diseases, such as neurasthenia, hysteria, psychasthenia, and phobias of various kinds.

Physiological and clinical observation have shown that emotional storms and psychic trauma will alter the rhythm and rapidity of the heart and respiration, contract the arterioles, increase the function of the sweat glands, inhibit peristalsis, check salivary and gastric secretion, decrease muscular energy and awaken the sense and symptoms of fatigue. This being true, one can readily understand how one's health may be seriously impaired by the character of thoughts which dominate the mind.

Per contra it is a fact accepted as proven, that when healthy mental states are substituted for unhealthy ones, of the character I have described, functional derangements of the body tend to disappear. Strong, cheerful, hopeful thoughts and other pleasurable emotions often alter in a marked degree visceral function. The heart's action is increased, blood pressure is regulated, an abundance of digestive juices poured out, muscular energy increased, and a feeling of well-being created. He who is strong enough to persistently hold in mind these kind of thoughts will have peace, joy, health and happiness. A cheerful, optimistic and positive mental attitude associated with bodily health, is the best preventive medicine. It maintains a steady vital force, which strongly resists the invasion of disease.

Some one has aptly said that "we cannot prevent a bird from flying over our heads, but can prevent its building a nest in our hair." Neither can we prevent undesirable persons from knocking at the doors of our homes, but we can refuse them admittance. So the mind can be trained by suggestion and auto-suggestion to choose and entertain the kind of thoughts desired and reject all opposing ones. Few, however, attain this degree of self-control. It is the fruit of a ripened experience and patient self-discipline, and the mark of a well-balanced mind.

By suggestion I mean "the power an idea has in our minds to suppress another idea." The

dominant idea may be produced by abnormal psychic states, as in the obsessions of psychasthenia, or it may be suggested by the positive assertion of some one; also by auto-suggestion the will may choose the idea and hold it in mind to the exclusion of all opposing ones. Psychotherapy is the application of suggestion to the treatment of disease.

As guardians of the public health, physicians do much to relieve suffering, heal disease and promote health and happiness. If, as James Allen states, "a man is literally what he thinks," much more could be accomplished in this direction if physicians would study "the psychology of suggestion" and utilize the normal mechanism of the mind to influence the physiological machinery of the body.

"Suggestion cannot create anything that is new, nor do anything that is not in accord with the laws of the nervous system; it can only make use of the machinery already provided."

By suggestion healthy psychic complexes can be organized and substituted for unhealthy ones. Psychic tangles can be unraveled and straightened. Erratic ideas, wrong beliefs and habits of thought can be changed or suppressed and be replaced by new data previously unknown to the patient and drawn from the wider experience of the physician.

In order to be effective new ideas must be fixed in the mind by positive suggestion, often repeated; else they become the sport of every passing thought and feeling. In selected cases it is a good plan for the physician to teach the patient how to repeat new ideas (auto-suggestion), until the old ones fade away and disappear. Nervous diseases such as neurasthenia, hysteria, psychasthenia and the various phobias are amenable to treatment by suggestion; and curable organic diseases can be favorably influenced by suggestion properly given. Of course, such measures as diet, baths, electricity, massage and drugs must also be used, but their potency will be increased when re-enforced by suggestion.

All physicians, consciously or unconsciously, use some psychotherapy in their daily practice. A physician with a wise experience and confident air suggests ability to relieve suffering and heal disease. It is a well-known fact among laymen that patients feel better as soon as the physician enters the sick chamber; the giving of medicine

suggests to the patient that benefit will result. As a rule, a remedy will be more effective if the patient is told to expect a certain result.

The physician who does not know that psychotherapy is a factor in the practice of medicine, is handicapped by denying himself of the use of a most valuable adjunct to other therapeutic procedures.

The successful application of suggestion is not a simple procedure, but an art acquired by diligent study and constant use of the principles above formulated. It requires all the skill which comes from a knowledge of human nature, of life and the intricate workings of the mind, and some conception of what Jesus meant when he said: "Thy faith hath made thee whole."

EMOTIONAL PARAPHRONIA.*

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The term is applied to a certain class of mental conditions that are neither true psychoses, nor hysteria, but may assume the character of the former by unfavorable surroundings or imprudent handling.

In hysteria we find sensory disturbances, dissociation and contraction of the field of consciousness; whereas in paraphronia there is generally an expansion of consciousness and an invasion of new ideas and experiences.

We are all aware of the fact that distinct individuality is a law of nature. A and B are perfectly normal, but unlike. If A assumes the character of B, and *vice versa*, both are in a measure paraphronic, which equals dislocation of character. There are many minor forms which might be termed subluxation of individuality.

There are two channels through which invasion of the system takes place—the emotional and the physical; a combination of both intensifies the danger. A successful life is an unrelenting struggle against the obsession of the mind by pernicious ideas and the invasion of the body by pathogenic bacteria. The personal conflict is

always the most thrilling episode of sport, and always will be. There is no such thing as compromise with our life opponents. A frame-up in athletics is always bitterly resented by the observer, who knows intuitively that in his own case such a thing is a biological impossibility.

Tarchanoff's experiments show conclusively that the human body under the effect of emotion develops electric currents of sufficient strength to deflect a sensitive galvanometer, thus proving active organic metabolism. It is likely that disturbances of the internal secretions play an important role in the production of emotional paraphronia. The time at which it is most likely to manifest itself is at puberty and menopause. Be it known to those who are unacquainted with the fact that men are subjected to the same sexual involutions as women, the former displaying a train of symptoms coincident with the cessation of sexual activity, and are liable at this time to develop paraphronia. One writer has humorously termed this period in man's life as the manopause.

Plato's idea of the unimpregnated womb wandering around in the abdominal cavity developing noxious gases and disturbing the mental equilibrium, and his name for this condition hysteria, is in accordance with the ideas of Freund, who reduces almost all cases of hysteria and hysteroid conditions to the realm of sex.

Case 1. A girl 19 years old, dark complexion, pale and anemic, had shut herself up in her room for eighteen months, completely subjugating the rest of the family, who yielded to every whim, brought her meals to her, and spoke in whispers, fearing to disturb her. This condition commenced at puberty simultaneously with the activity of the erogenous zones. She would climb trees, and amidst the foliage read popular romance, scanning the horizon for the prince coming to impregnate and share his kingdom with her. She became self-centered, haughty, overbearing, disobedient and exacting, retired to her room, slept late, and would stand for hours pointing out of the window at objects—a truly ecstatic condition. Entrance to her apartment had to be forced; she presented all the typical symptoms of a paraphronic resenting interference in a stormy fashion. There was only one thing to do: a quiet but determined reduction of the psychic luxation; what politicians call the steam roll-

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er process was employed, inexorably guiding the patient along the only path that led to recovery.

She was taken to a private institution and her habits regulated. Physical examination showed irritation of the genital tract caused by stimulation not necessarily digital, possibly by crural tension and sacro ventral sinuous movements the symphonic and antiphonic response to erotic psychic attitudes. One month's treatment was sufficient to restore this patient to a normal condition. She then resumed her occupation. Was she insane? No. Hysteria? No; for she had not the classical symptoms of the latter. What then? Paraphronic. Every impulse she had was as pure and womanly as the leit-motif in the Song of Solomon, but had been deflected through lack of knowledge of biological facts. She had started on a pilgrimage to the shrine of the Goddess Maternity, but had gone astray—fortunately, not irrevocably.

Case 2. Looking in the opposite direction, the case of a man 60 years old at the *sexo-pause* or *ero-pause*, if I may coin an expression. He was introduced with the usual complaint of a change of character.

He used to be diligent, strict and punctual and orthodox in his social and religious activities—early to bed, early to rise, teetotal forward movement man, always positive, quick and determined, driving those who could be driven and pushing those who would not go—what the world calls a successful business man. He had married young and raised a family, but had never been in love—no art in his make-up. He changed, however, and began to take a little Budweiser for his stomach's sake, became careless and incoherent, and a little lenient towards indecency; was seen by an acquaintance in a place of doubtful reputation when on a business trip to another city; was in a vacillating condition—sometimes morose, at others exhilarated; he neglected his affairs. This condition alarmed his family, who sought advice. Here we have a case of ethical metamorphosis, or rather catamorphosis—a complete luxation of character without hysterical symptoms. This man had lived and reached the climateric, but had never loved. Harsh and uncompromising commercialism had put the little god to flight. The arrows from his bow had been blunted and turned aside by the pachydermatous commercial heart. Paradoxical as it may seem,

he had gained all and lost all simultaneously, for life without romance is a dismal failure.

No contraction or dissociation of the field of consciousness, rather an expansion. He had climbed the hill of life, which culminated in orcho-prostatic subinvolution. Gazed upon the Pacific, he could never reach; a compromise is all that is left. He was advised to read Keat's "Ode to the Nightingale," fall in love with his wife, take a family vacation and try to find at least one little catgut string of sympathy that would vibrate in response to art.

Case 3. A girl 23 years of age, successful music teacher, rather suddenly changes character, becomes morose and disobedient, lies in bed late, mutters to herself, bursts out laughing, kisses her hand, strikes her relatives, wanders away manifesting traits of character hitherto unknown, writes names in the air and on window panes. Evidently losing her mind, but no stigmata of true psychosis. Confined for a while without benefit.

The cause of her trouble was a love affair bitterly opposed by parents, smothered down for a while, but fanned afresh into flame by the sight of a child born to a girl friend recently married. Here the maternal instinct had activated the *erogenous zones*—made a psychic desperado of her, turning her hand against all that stood in the way of realizing her ambition for maternity.

There is no use telling a patient in such a condition to dismiss an idea. Ideas cannot be dismissed any more than respiration can be suspended. It is more prudent to recognize the validity of the new impulse and conduct it into channels where it can be used as an asset. Hence the advice given to cherish the ideal as noble and exalting, but at the same time to clothe it in an ethical garment, and not allow it to run amuck in a naked condition, offending others and destroying itself.

Many text-books would lead us to believe that the vitiation of the secretions, such as an excess of ethereal sulphates in the urine, is the cause of emotional disturbance; the opposite, however, is generally nearer the truth—namely, the emotional disturbance is the prime factor in vitiating the body metabolism. The emotions, however, are concealed, denied or forgotten. Were the absolute truth known, a great many diseases, including some of the contagious, are the result

of emotional disturbances lowering the opsonic index, thus allowing their foothold in the system.

The idea has recently been advanced more especially by the introspective novelists, that under special emotional pressure new territory is opened in the field of consciousness by the circulation invading areas of the brain heretofore barren, as water irrigation of arid soil creates new vegetable life, likewise blood irrigation brings new psychic phenomena, creates as it were, a new individual with a wider field of association. This idea accounts for the phrenic changes of puberty.

Psychology romance has taught us as much, if not more, than many text-books. There is more genuinely applied psychology in D'Annunzio's "Triumph of Death" and Flaubert's "Madame Bovary" than in a five-foot shelf of text-books.

There is nothing so helpful as laying bare to the scientific eye the structure and composition of the patient's psychological life. The sufferer is landed, so to speak, in a strange country of new surroundings and physical features. We come to him as one acquainted with its topography and lead him to an understanding of and a reconciliation to this new phase of life. We explain the present condition as the inevitable result of antecedent factors, now beyond control. This condition can be changed by bringing in a new and more accurate conception of real and lasting truth, more abundant life.

Petrarch, the poet, looking back on his own life, was filled with pity for himself, so much so, that he wept aloud.

The true scientist is well acquainted with pity, and knows little about blame. His role is a trinity, prophet, priest and king. Prophet to make a prognosis; priest to minister to the disturbed emotion; and king to make the sufferer ruler over himself.

Remembering in the attitude we adopt towards disease, we pass judgment on ourselves.

Health and disease are fluid, active and changeable, and to permit our opinions to be stereotyped into any form is fatal to progress.

THE DIAGNOSIS OF INSANITY.*

BY G. E. HATCHER, M.D.,

Nashville.

Assistant Superintendent Central Insane Asylum.

MR. PRESIDENT, GENTLEMEN: It is the intention of this paper not so much to go into the symptomatology of insanity of the various types, as an appeal to the general practitioner for an early diagnosis and early proper treatment. If there is a branch of all Medical Science that the average general practitioner knows little about it is the branch of mental diseases. I am not speaking as an alienist but as a plain ordinary practitioner who has had some experience with the insane. By referring to the statistical tables of our institution, I find that for the past ten years only thirty (30) per cent of the patients admitted were admitted within two months of the initiation of the attack, against seventy per cent admitted later; some after many years. If you will compare this percentage with the percentage of recovered patients namely nineteen (you will see that quite a few do actually recover), and then investigate who recovered, you will find that nearly all the cured patients were admitted very soon after the initiation of the disease, that very few recover after having been insane longer than six months.

These statistics are not absolutely correct from the fact that a great many patients are discharged as improved and later are recovered which fact fairly estimated would bring the recovered percentage up to twenty-five per cent.

I feel from my limited experience that this is a very important appeal to the men doing private practice, for many reasons, first and most important of all because more patients could be restored and allowed to return to their former or different occupations and be of some service to themselves and the world; second, it would check the crowding of the public institutions with chronic cases of terminal dementias, etc., and allow more room for recent cases without fur-

*Read before the Nashville Academy of Medicine.

ther appropriations as at present for the rapidly increasing number of dependent insane; then from a purely medical standpoint so much more effort and study is and would be given recent cases that is not and cannot be given in the care and treatment of absolutely incurable cases except as to their physical health.

There is no more disgrace in being insane or in having insane relatives than there is in having other diseases, but having been handed down from times very ancient that insanity is a visitation of the devil, there remains even today a feeling of depression and temerity among many with regard to insanity and it is the duty, I think, of the family physician to educate the laity beyond this ancient tradition that they will not conceal an acutely insane member of the family or kinsman until suicidal or homicidal tendencies bring it to light and makes institution treatment a necessity, but so they will immediately upon the first intimation of a mental disturbance engage a competent physician to examine and treat the case.

This is the day of preventive medicine and I wish to state right here that much can be done toward the prevention of insanity. A great many cases of intoxication psychosis no doubt could be prevented were they really recognized as such and properly treated early. Some cases no doubt of the manic-depressive type could be prevented; for instance, some of the cases that follow parturition and give a history of a toxæmic pregnancy and more or less exhaustion following labor. I might mention more cases of the various types of insanity that might be prevented if recognized and treated early, vigorously and properly.

Now I wish to call your attention briefly to the diagnosis of insanity proper. First we must have an understanding of what constitutes insanity. The definition of Dr. Douglas, Superintendent of the Central Hospital, is, I think, both accurate and simple, namely, insanity is a symptom of disease of the brain producing a prolonged departure from the individual's normal standard of thinking, feeling, and acting.

It is also convenient for the general practitioner and necessary for the alienist to have a classification of insanity that will include all cases, and at the same time not be too complex and complicated. After thorough investigation

and comparison of the many classifications of the many alienists we have arranged and adopted the following at the Central Hospital for the Insane with which I am connected.

First we have the intoxication psychoses primarily divided into intoxications from drugs and auto-intoxications. The more common drug intoxications are alcohol, cocaine, morphine or opium, and chloral hydrate. Under the division of auto-intoxication or exhaustion we find the types of insanity commonly known as confusional insanity and amentia.

Secondly, we have the infection psychoses which are directly due to specific infections as typhoid, scarlet fever, tuberculosis and syphilis.

Next we have the increasing type of dementia precox, a primary dementia, found in young persons not usually over twenty-three or four years of age appearing either gradually or rather abruptly in a previously supposed healthy and intelligent person. It is frequently found in persons who have rapidly gone through preparatory schools and have entered college. Overwork of the mental faculties being an important factor in its production. This type may assume any of the three following varieties, hebophrenic (puberty and mind depressed and self-centered), katatonic or paranoid.

The next type in our classification is the dementia paralytica or general paresis.

Next we have organic dementia, a dementia brought on by blood-clots, tertiary syphilis tubercles in the brain, tumors of the brain and foreign bodies including depressions of the skull.

Next we come to the psychoses due to the period of involution, involution psychoses namely, melancholia and senile dementia. You will notice that this is the only true melancholia, depressed states coming on earlier in life belong to the next type of insanity which I will describe.

Seventh, manic-depressive insanity. This is the most common of all varieties. All the manias pure and simple are included in this division and all the depressed states that are not dementias. This type has the widest range of years for its culmination, young, middle-aged and moderately old are alike susceptible. It may assume a manic, a depressed or a mixed state. This is a type that frequently recover but some

will have a second, a third or more attacks and then terminate in a secondary dementia.

Next we have the paranoiacs in whom there is a fixed delusion that never changes. They never recover. It is claimed that this is the most dangerous of all types to the public welfare but I think that is because so few are confined, the majority are at large and they are usually degenerates.

Ninth, epileptic insanity is an insanity coming on with epileptics and a great majority of epileptics are insane.

Tenth, arrests of mental development, in which division we have the imbeciles, idiots, and moral insane.

Eleventh and last, we have the secondary dementias, the ultimate result of all cases that do not recover in from one or two years. Occasionally a case will continue for three or even four years without mental deterioration.

This classification you will find covers all the types of insanity and one that is simple and clear that can be readily understood by others than alienists.

As my definition states an all important symptom for the diagnosis of insanity is the prolonged departure from one's normal condition. Especially should this be noticeable and sought if there is the slightest strain of insanity in the family or even a neurotic taint. The trained practitioner readily notices any change in the physical condition of his patient but does he train himself to notice slight changes in their mental condition? The premonitory symptoms of insanity are many and varied. The bodily functions are changed and we have constipation, clammy extremities, increase of solids in the urine, foul breath, coated tongue, loss of appetite, etc. We have emotional disturbances as insomnia, increased motor activity, or extreme depression, vertigo, tinnitus, etc. If the case is one of the manic group we have in the prodromal period loquacity, increased activity both mental and motor seemingly brighter and more active than usual. If on the other hand it is one of the depressive group we have a clinical picture showing self-accusation, accusation of others, an aversion of former friends, seclusiveness, irritability, morbid suspiciousness and a vague sense of impending evil. These cases nearly always show more change of char-

acter than the previous ones, devout ones become profane, the sociable become unsociable, the industrious become indolent, foolish business enterprises are entered upon, the refined become inmodest all these conditions being directly contrary to their normal self.

These conditions vary greatly in degree and should always at least arouse suspicion especially when there is an inherent taint or a history of excesses of alcohol, drugs, or the sexual life or when there has been an injury to the head, overwork, mental shock, syphilis, etc.

It should be borne in mind however that the normal limits of an active mind are not very narrow but have considerable range of variation as for instance one is not always in a good humor, and vice versa one is not always solemn and depressed. It is only when there is a prolonged departure from one's normal, mental power of thinking, acting and feeling that he should be diagnosed as insane. One is not necessarily insane because he does not make successful business ventures; his normal standards may not be high enough for success. Another thing to be eliminated is the delirium of acute febrile conditions that soon pass off with the receding of the fever, and also the acute intoxications of drugs and alcohol. The subjective history of a case is important though frequently very deceiving especially in criminal cases, and the plea of present insanity is a popular loop-hole for the criminal of today. The history, is sometimes deceiving, by others than criminals because they have enough mental resistance to hide their delusions unless very carefully and painstakingly examined and cross-questioned. They can usually be shown up by persistent and fatiguing questioning. Sometimes their statements must be proved or disproved by physical examination or otherwise for instance they may claim that there was or is a conspiracy against them, or, in a woman that she is pregnant, etc. On the other hand their delusions and hallucinations are so irrational that no further corroboration is necessary, for instance, one may state that he is called on by the Lord to do great works or frequently that he is the prophet of God, that he knows where treasure is hidden or buried, that he is President of the United States or in a female that she is the most beautiful woman in the world when in fact she is homely,

that she is a priestess, that she is the mother of George Washington and is only 30 years old and many others too numerous to mention.

Now in conclusion let me state that the diagnosis of insanity is a very difficult and a very important task. It is a difficult undertaking because of the wide scope of symptoms and the indefinite and varied exhibition of symptoms. It is very important for several reasons namely the better prognosis in an early and positive diagnosis and proper early treatment and on the other hand in civil and criminal proceedings to keep the not insane criminals out of the hospitals and to keep the insane out of prisons. In other words to judge the accountability and the responsibility of these people. Gentlemen I feel assured that should you see this ever and rapidly increasing class of patients as I see them you would realize that there is important work to be done along this line. I thank you.

THE SHORT, SENSITIVE UTEROSACRAL LIGAMENT: ITS SIGNIFICANCE AND TREATMENT.*

BY M. M. HANNUM, M.D.,

Maryville, Tenn.

I am well aware that what I have to say to you is nothing new and has been said better before this. However, so far as I know there is little in the literature relative to this condition. The better articles are by Schultz, of Jena, Burrage, of Boston, and Ill, of New Jersey.

It was while taking hospital work under Dr. Ill that I had the opportunity of taking the histories, studying the condition and the treatment of about twenty cases. This paper is written from the study of those cases and from what I learned from Dr. Ill.

It seems to me that it is very important to recognize the condition, for many an ovary and appendix have been sacrificed under a false apprehension.

Let us clearly understand that these changes in the position of the uterus are due to a

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pathological condition of the uterosacral ligaments, not to extraperitoneal, tubal or ovarian disease. The malposition produced by such extraperitoneal disease can be made out clinically and differentiated from the condition which I will endeavor to describe in this paper. Such conditions as result from frequent puerperal injuries and scars from cellular inflammation should not be mistaken for short, sensitive uterosacral ligaments.

Gynecologists tell us that any organ in the pelvis which is sensitive to moderate pressure is diseased, with the exception of an acute pelvic exudate, I know of no condition so painful as the short and sensitive uterosacral ligaments. The condition resulting from the disease, namely, the displaced uterus is more apparent, but we should not overlook this extremely sensitive point. Burrage says that ten per cent of his cases suffer with this condition. Ill tells us that about five per cent of his office cases suffer with short sensitive uterosacral ligaments and that the left one is shortened in seventy-three per cent of cases when but one ligament is diseased. He gives as an etiological factor its proximity to the rectum. Where one ligament only is diseased the result will be to draw the uterus backward, upward and to the side of the short ligament. If now an attempt be made to draw the uterus in a position opposite the short ligament violent pain will result, while if we push toward the short ligament no complaint will be made. You will see that a fixation of the uterus is the result of this condition. The circulation of the organ becomes impaired, endometritic and metritic changes accompanied by menstrual disturbances result, and the patients say they are gradually growing worse.

ETIOLOGY.

In many cases the etiology is difficult to determine. Some cases must be congenital or develop during childhood as symptoms are not noticed until the beginning of puberty. Other cases can be traced to a misstep, a fall or to constipation and piles.

Kelly and Noble in speaking of the diseases of the pelvic cellular tissues tell us "that the pelvic connective tissues varies normally in different individuals, and that the rectum and uterosacral folds in many women are sensitive

to pressure through the vaginal vault. Therefore, we are not justifiable in concluding that an actual lesion of the cellular tissue is present because the uterosacral ligaments feel thicker than normal, or are tender to pressure." As the victims of this condition never die from the disease, we are unable to give any microscopical findings, but let it be sufficient to say that whether there is an actual lesion or not, many cases are benefited and some cured by a simple mode of treatment. The symptoms are quite definite and the physical examination constant in its results. When only one ligament is diseased and is acquired during childhood or is congenital, the symptoms always begin with the menstrual epoch. The patient tells us that the symptoms are gradually increasing. There is a pain in one or the other iliac regions, may be on the side of the long ligament. They tire easily, get nervous, and their general health suffers much from want of exercise. The menstrual pain becomes more severe and longer in duration. Sometimes there is sensitive spines and painful coccyx, and often occipital headaches. When both ligaments are diseased we have the symptoms which accompany the anteflexed and fixed uterus.

In the acquired cases, if only one ligament is short and sensitive pain is often referred to the sacro-iliac synchondrosis of the short side or to the iliac region of the same side. Dysmenorrhœa seems to be common to all, which may due to endometritic changes. Neurasthenia is common with many cases. Kelly, of Baltimore, mentions it as a cause for sterility, and also as a frequent cause for abortion. Ill says that about seventy per cent of his married cases have been sterile. The physical examination will usually give us the following conditions: When both ligaments are short the uterus will be elevated, lies close to the sacrum and its mobility much impaired, especially is this so with the cervix. The body of the uterus is often in retroposition, or may be anteflexed, when but one ligament is short and sensitive the uterus is elevated, displaced to the side which is short and may be retroposed, when we attempt to draw the cervix downward and forward, the short ligament stands out and the patient complains of much pain.

We must at all times remember the normal

position and mobility of the uterus, when we attempt to make a diagnosis. When we find the uterus outside of its normal position and its mobility impaired by a short and sensitive uterosacral ligament the diagnosis should not be difficult. We have a retroposition when both uterosacral ligaments are short, a retrolateral position when one uterosacral ligament or one uterosacral and one broad ligament of the same side are short, and a lateral position when one broad ligament is short.

The prognosis is good in most cases, but for those of long standing and of neurotic families it is not so good. I saw one case a complete invalid and several semi-invalids as a result of this condition.

Pregnancy usually effects a cure. Dr. Burrage advises section of the ligaments after a celiotomy and suspension of the uterus. Dr. Stone, of Washington, advises section of the ligaments through the vagina. The operation and treatment which I prefer is the one devised by Dr. Ill which is a thorough stretching of the ligaments under ether anesthesia. This is not always easy to do and it requires much muscular energy to accomplish the desired results. The technique is this: The patient is put in the lithotomy position and two fingers of the right hand are placed into the vagina behind the cervix to act as a prop for the other hand. The fingers of the other hand are inserted behind the uterus, and by a rotary movement the ligaments are thoroughly massaged between the two hands, at the same time lift the uterus forward until it nearly reaches the pubes. There should be no motion of the right hand except to lift the uterus forward, after the ligaments are thoroughly stretched the cervix is dilated with steel sounds beginning with No. 13 and going to No. 36 French. The uterus is curetted, irrigated and a glass plug No. 32 French is introduced into the cervix. The posterior vault of the vagina is packed with a five-yard strip of iodoform gauze. The plug acts as a fulcrum for the gauze and keeps the ligaments on a stretch. On the third day the packing is removed and replaced by another providing the glass plug is still in place, in three more days the packing and plug are both removed and the patient kept in bed for a week. She is then told to use hot douches for two months while in the knee chest

position. Satisfactory results may be expected from most cases though failures have occurred. I have never heard of any harm resulting from this mode of treatment and I hope that we may have renewed studies upon this most interesting condition.

DISCUSSION.

ON THE PAPER OF DR. HANNUM.

DR. WILLIAM D. HAGGARD, Nashville: I think we are indebted to Dr. Hannum for bringing this subject before us. We are all more or less familiar with the writings of Dr. Ill, and we have all had the type of cases under discussion, and we probably sometimes make a mistake in opening the abdomen and not finding very much pathology; but during the examination the cul-de-sac may be so tender and sensitive that we are led to suppose that there is pathology in the adnexa on one or both sides. When we open the abdomen we find a thickened condition in the cul-de-sac in front where the uterosacral ligaments are given off, but the tubes and ovaries are practically normal. When the uterus is in a retroverted position, I have flexed the ligament by forcible traction from above and shortened the round ligaments in front by the Ferguson or another type of operation. This pathological condition is generally found in neurotic women. A strong, healthy woman, who had this lesion, would not complain a great deal, and local measures of treatment would suffice. I have not tried the method or device the essayist has spoken of, but my experience has been in the type of cases mentioned, we are likely to have a great deal of trouble by vaginal examination. In these cases, when you open the abdomen, you will find the pathology expected, but rarely a short ligament on one or both sides.

DR. LUCIUS E. BURCH, Nashville: I have read the article of Dr. Ill with a great deal of interest, and I am frank to say that there is nothing in it. I do not believe there is anything in this contraction of the uterosacral ligaments. The text-books tell us that the uterus is held in place by intra-abdominal pressure, and by the contraction of the uterosacral ligaments. We do not know what intra-abdominal pressure is. That is all theoretical, and when it comes to the uterosacral ligaments, all of us have had the experience time and again of not being able to find them. They are indefinite structures, you cannot find them in a patient always, and if you look for them at the dissection table they are very hard to work out. When we attempt under anesthesia to stretch the little ligament through the vagina, one which we cannot often find when we open the abdomen, it is all foolishness. We might as well try to be practical and sensible, and if we want to get results from any method of operating, the thing to do is to look for something, and not simply because a woman says she is neurasthenic you can always imagine you will find something. To say

that you can find a contracted uterosacral ligament is to me all bunk.

I want to say again, I am not radical. This is a plain, sensible talk. The majority of displacements that produce symptoms are not due to the displacement of the uterus per se. You can take the uterus and flop it around anywhere. It ought to be able to be flopped around. Any fixed position of the uterus is an abnormal position. When it is fixed backward or in any other way, it is abnormal. You want the uterus so that you can move it about. If you find a retro-displacement that is producing symptoms, do not rush to the conclusion that it is due to the uterosacral ligaments; it is more likely due to either a prolapse of the ovary or some disease of the appendages.

DR. E. T. NEWELL, Chattanooga: I want to voice the sentiments of Dr. Burch in reference to this matter. The great trouble with me has been that I have found relaxation of the uterosacral ligaments and an indefinite lack of tonicity of the uterosacral ligaments. I believe if the uterosacral ligaments were more definite, had more structure to them, we could remedy them easier. The greatest ill we find in gynecology is the retroverted uterus. Traction on the uterosacral ligaments will put the uterus in a normal antiflexed condition, the very condition we usually find the greatest trouble. Personally, I do not know that I have ever seen but one case where I thought the uterosacral ligaments were contracted or shortened. Often in doing a hysterectomy, in pulling up strongly on the uterus, we are seldom able to identify the uterosacral ligaments. It is my idea in the future to find the uterosacral ligaments, and try and shorten them to relieve the retroflexed uterus rather than shorten up the round ligament, and if we are fortunate enough to be able to identify the uterosacral ligaments and shorten them, it would be the operation to do, and I think in the future the operation will consist in shortening the uterosacral ligaments.

TREATMENT OF EARACHE.*

BY WALTER DOTSON, M. D.,

Gallatin, Tenn.

When I thought I was prepared for, and began the practice of medicine, some of my first cases were earache; and I was frequently asked what to do for earache without seeing the patient.

After thinking back over my lectures on otology and referring to my notes on same, I remembered that I had never heard of a treatment for earache, except what our grandmoth-

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ers had prescribed for me and other children of the neighborhood.

My next step was to consult the index of all the medical authorities at my command and found them to be silent on the subject of earache. I then began buying a few, and consulting many other works on otology, and found them silent also on the treatment of earache.

I made up my mind then, "that if I ever learned any treatment that was better for earache than laudanum and sweet oil," I would offer it to the young doctors of our state in as short, simple and practical way as was possible for me to do.

The treatment of earache, of course depends on the cause of the pain. We will class earache or acute pain in the ear, in three classes, all of which are produced primarily by inflammation of some kind in some part of the ear. Two of these classes have the same location, *middle ear*: occur more common and are sometimes difficult to differentiate from each other, but should never be confounded with any other disease of the ear. One is a simple or catarrhal inflammation, while the other is more severe and is a suppurative inflammation.

The first is known as acute catarrhal otitis media, and the second as acute suppurative otitis media.

The first is produced by an extension of a simple or catarrhal inflammation from the nasopharynx up through the eustachian tube into the middle ear. This produces swelling of the mucus membrane of the tympanic cavity, which pours out an extra amount of mucus and serum into the cavity, thereby decreasing the cavity and increasing the amount of its secretions or contents. The swelling of the mucus membrane of the eustachian tube lessens or obliterates the canal, which is the normal drainage of the middle ear. With these three conditions existing at the same time, tympanic cavity decreased, contents increased, and drainage of the cavity blocked; naturally there would be great pressure on the internal surface of the tympanic cavity, including the drum membrane. This condition is what is commonly known as pressure ear-ache, and is produced by an extension of a "cold" to the middle ear. This, while appearing to the patient as being very severe, is the simplest form of earache.

The second form of earache spoken of above as acute suppurative otitis media, is produced the same way as the first, except that the extension of the inflammation from the nasopharynx is a septic inflammation, or that infectious laden secretions, or the infectious bacteria themselves enter the tympanic cavity through the eustachian tube. Here we have about the same condition existing as in the other case, except the secretion is *purulent* in place of mucus and serum. This case is more severe, in fact the middle ear cavity becomes an abscess cavity. This earache is frequently found occurring with or following some of the acute exanthems, such as measles, diphtheria, scarlet fever, whooping cough and la grippe. The infection of influenza is known to produce more cases of acute suppurative otitis media than any other disease.

In order to treat these cases of earache correctly, it is necessary to differentiate one from the other. The history of the attack and of the previous illness will be of some advantage, together with the amount of pain and temperature, but I depend almost altogether on the inspection of the drum membrane, with the head mirror and ear speculum, to make a differential diagnosis.

The drum membrane will have lost its bright grey lively appearance, and will be seen in color as a pink to a dull brown. Its lines and angles will be changed, and some of its landmarks obliterated.

It presents a curved surface with the convexity outward.

In the simple or pressure form, the changes will not be so great. The drum membrane is not inflamed except along the handle of the malleolus. The entire surface is curved out from internal pressure. The outward convexity is not circumscribed or limited to a bulging space of drum membrane, as in the suppurative form. Fluid may be seen in the lower part of the tympanic cavity through the drum membrane. Change the position of the patient's head and the surface level of the fluid changes. Inflate the middle ear with air, and note the air bubbles in the fluid contents of its cavity.

In the suppurative form of earache, the drum membrane will be inflamed, appears thickened, of dull or muddy color, and will be found bulging or sagging out into the external canal. This

bulging will be circumscribed to some particular portion of the membrane, as the "pointing" of an abscess.

TREATMENT—The treatment of any form of earache can be summed up in one word: *Drainage*.

Drainage of the middle ear can be accomplished in three ways, viz.: Drainage through the eustachian tube, drainage through the drum membrane, as exosmosis, and drainage through the drum membrane by an incision with the knife.

Simple or pressure earache, when sure of our diagnosis, should be treated by draining the middle ear of its contents through the eustachian tube. This can be done by catheterization of the tube and forcing its canal open by compressed air. Drainage should also be secured by exosmosis through the drum membrane. This is best secured by the application, to the external surface of the membrane, of a snug fitting cone-shaped tampon. The tampon should be made fresh from absorbent cotton and the large end of the cone fluffy. This cone should be soaked in an antiseptic anesthetic which is dissolved in glycerine. Warm this tampon over the lamp and apply the large fluffy end of the cone snugly against the drum membrane. This tampon is left in place for 24 hours or more. By it we get mechanical support to the bulged out drum membrane, antiseptic application to the inflamed surface, anesthetic application for the relief of pain, and the glycerinated tampon produces an exosmosis of the serum in the middle ear. This anesthetic antiseptic solution is made from 10% phenol and 4% cocain dissolved in glycerine.

Earache produced by suppuration of the middle ear, should be treated by thorough drainage through an incision of the drum membrane. This incision must be a long curved incision, beginning in the most pointing or bulging place and extending downward with a curve to the lowest border of the drum membrane. Never be satisfied by a paracentesis or puncture of the drum head, but make a long clean curved incision to the lowest border, to obtain perfect drainage of the cavity. This incision can be made under a local anesthetic, or a general anesthetic of ethyl chloride. It should be made as soon as a diagnosis of suppuration is made,

which is usually at our first examination; but in case of doubt as to whether it is a suppurative or catarrhal case we are dealing with, then, we should make the incision any way. By making this drainage early and free, we save the patient hours of pain, relieve his earache completely, and avoid dangerous complications, such as acute mastoiditis, facial paralysis, and acute septicaemia.

The incision made by the surgeon, drains the middle ear cavity completely, and then heals kindly and quickly; but if nature is allowed to make her own drainage, the patient suffers longer, dangers of complications are greater, and nature will not make a long clean incision that will drain the bottom of the cavity.

A natural perforation of the drum membrane is usually round or triangular shaped, with ragged edges which partially slough away. The opening is not at the lower portion of the membrane, which is the most favorable portion for complete drainage, but is found to occur at the point of greatest bulging, which may be in any section of the drum head, but more commonly it is located at or above the center of the membrane.

It is a great mistake and is considered negligence on the part of the physician who permits a suppurative middle ear to rupture through the drum membrane. The dangers of permitting the rupture, such as acute mastoiditis and facial paralysis and prolonged pain, has added to them recurrence of the earache from imperfect drainage and a chronic suppurative middle ear which may persist for many years.

When the rupture occurs spontaneously, the patient will experience immediate relief from his earache, and will believe himself well, but often we are consulted in a few days for the return of the pain. On examination we will find a small perforation located high up in the membrane, which is not permitting perfect drainage. In other words, we have present a continual amount of residual pus.

The treatment in these cases is to introduce the knife into the perforation and make a long clean curved incision, extending to the lowest border of the drum membrane.

The dressings or after treatment of all cases of suppurative earache are made by introducing into the wound, the end of a sterile wick or tape

of gauze, which is folded lightly (not packed) in the external auditory canal, extending to the auricle, and completed by covering this with absorbent cotton. This wick or gauze drain, keeps the cavity drained which is absorbed by the cotton on the other end of the wick. This dressing should be changed from every 24 to 48 hours, until the discharge has ceased and the wound healed.

There is another form of earache which was alluded to at the first of this paper. This is an inflammation occurring in the external auditory canal. It is a suppurative inflammation, and may be diffuse or circumscribed. The pus will be found located between the bony canal and the periosteum. This produces great pain and swelling in the canal.

This earache is cured by a deep incision down to the bony wall, evacuating the pus, and using the wick drain.

DISCUSSION.

ON PAPER OF DR. DOTSON.

DR. GEORGE H. PRICE, Nashville: I did not get to hear the opening part of Dr. Dotson's paper, but I heard the major portion of it, and especially that portion relating to the treatment, which is the most important part in all of these conditions. Earache I regard as the most dangerous condition with which the specialist has to contend, and it is by far the most dangerous condition with which the general practitioner is confronted. It is not dangerous *per se*, but the sequences of an earache, as we ordinarily call it, are such as to present some serious features for our consideration.

The description, of the various forms of earache which the doctor has given so clearly, is not always easily made out, and to the general practitioner, who comes in contact with these cases so frequently in a wide range of practice, these cases are of serious moment, and it is not easy for him always to determine the exact condition, whether it is a simple earache from pressure symptoms, as the result of an accumulation of serous material within the middle ear, or whether it is an infective condition due to the presence of pus in the middle ear. In fact, it is sometimes a difficult matter, as has been suggested by the essayist, to determine exactly the cause, although the history in each case lends itself as a picture by which we can determine this.

The treatment of earache is a most important one, for the reason that unless the condition is treated, in a large number of cases, we have as a sequel a continuous discharge, with a liability to involvement of the antrum and of the mastoid and other serious complications which lead sometimes to involvement of the

brain itself and to the death of the patient. The treatment as outlined by the essayist will, in my opinion, reach the majority of cases, and, in fact, is one of the best to which we can resort, but we are not always able to follow it in detailed minutiae. The introduction of a tampon into the external auditory canal and its proper placement in juxtaposition to the drum membrane itself is not an easy thing, and especially is this so in children, who not infrequently are possessed of such small auditory canals that we can scarcely introduce even the smallest ear speculum. However, if this can be resorted to successfully, it, in all probability, will relieve the immediate symptoms in a comparatively short space of time. I have followed a line of treatment somewhat similar, but yet a little bit divergent from that suggested in the paper, because in many instances where you have to depend upon those at home to keep up the treatment, it is not always easy for them to do just exactly what you seem to think is right for the individual case. Therefore, the simplest possible method of treating these cases is perhaps the best. If a physician could always look after them and see them every day, as the conditions change, or as the symptoms fluctuate, he could meet them, but sometimes he may not be able to do so. Sometimes he has great difficulties to contend with in these cases, especially those practitioners who practice in a sparsely settled community, who cannot see these patients every day. I have for years resorted to local medication in these cases, and it has in the main proven satisfactory. (At this juncture time was called on Dr. Price, but on motion he was allowed to continue the discussion.)

I want to back up what Dr. Dotson has said, that earache, if allowed to go untreated, may develop into a very serious condition, and yet one that is lightly regarded by many. There are many people who regard an earache as a transient pain. Every household should be provided with a fountain syringe, and those in charge of the patient should be instructed how to use the fountain syringe. The fountain syringe should hold a couple of quarts of warm or hot water, as hot as the patient can bear it. You can use normal saline to begin with. This can be injected into the ear at a low pressure. If in washing out the ear with a fountain syringe, you hang the bag on the bed and direct a stream of water into the ear, directing it with great force against the drum membrane, you are liable to produce agonizing pain or marked syncope. You want to avoid that. Elevate the bag an inch or two above the ear; the length of the tube makes no difference; allow the water to run slowly in and out immediately; continue this until you irrigate the ear with a quart or two of hot water. Turn the ear over after having thoroughly irrigated it and allow it to drain as far as possible. Introduce cotton and clear the ear of what remains in the way of water. If the drum membrane is not red or congested or inflamed, and the pain is not great, we can instill into the ear five or six drops of the following solution: Atropia sulphate, 1 grain; morphia sulph., 2 grains; boracic acid, 20 grains; aqua distilled, 1 dram. And this should be warm. Put a dry plug of cotton in the ear, and put over that a warm

compress, and the pain is frequently relieved. There are other cases in which you will have to open the drum membrane, and you are confronted by another thing, one which is easy to tell, but a rather difficult thing to do. I once heard the statement made by a practitioner that he could perforate the drum membrane in the dark, if he could feel the patient's ear. I want to say that practitioner could not perforate my drum membrane, nor any one related to me. To incise the drum membrane, as has been suggested by the essayist, requires a good light with head mirror, and a good field of vision. I have often resorted to this, doing it under a local anesthetic. I first instill a few drops of what is known as suprarenal liquid with chloretoque, which simply obtunds sensibility. I follow that with a few drops of concentrated solution of cocaine—that is, about ten per cent solution. I use a very fine cotton applicator, drawn down to a point, saturated with a solution of equal parts of cocaine,

menthol, and carbolic acid, which is applied to the drum membrane in the line of incision. After three or four minutes you have local anesthesia in the line of incision, and in the best light possible, and with somebody steadying the head of the child you incise the drum membrane. Immediately following this there is considerable pain. You want to encourage the outflow of blood, and then following this, drainage will go on.

The case described following grip is dangerous. All such cases are dangerous. I had a case last Saturday in which the symptoms began with irritation in the mastoid. I could not go immediately to see the cases, and I requested that the patient be sent to some other practitioner and find out what the condition was. Later, I incised the drum membrane, and the relief was so great that the patient wanted to return to work at once, which was not allowed and never should be.

THE JOURNAL*of the***Tennessee State Medical Association****Office of Publication, Jackson Building, Nashville, Tenn.****DECEMBER, 1912****EDITORIALS****CONFERENCE OF STATE SOCIETY OFFICIALS AND COUNCILORS.**

On November 25, the President called together the councilors and officers of the Tennessee State Medical Association. The following responded and devoted a full day to a discussion of the business of the Association:

Dr. O. Dulaney, President, Dyersburg.

Dr. Geo. R. Livermore, Vice-president, Memphis.

Dr. Z. L. Shipley, Vice-president, Cookeville.

Dr. Perry Bromberg, Secretary, Nashville.

Dr. A. B. Cooke, Associate-Editor, Nashville.

Dr. C. P. Fox, Councilor 1st District, Greeneville.

Dr. A. F. Richards, Councilor 3rd District, Sparta.

Dr. W. G. Frierson, Councilor 5th District, Shelbyville.

Dr. E. T. Haskins, Councilor 9th District, Newbern.

Dr. Olin West, Member Public Policy and Legislation Committee, Nashville.

Dr. Robt. Caldwell, Member Public Policy and Legislation Committee, Nashville.

The meeting was an enthusiastic one and the suggestions offered, discussed and approved will, when adopted by the House of Delegates at their next meeting in Nashville, April, 1913, become laws governing the conduct and management of the Association.

Among the more important matters, which were adopted, was the fiscal year. The by-laws

at present fail to definitely state when the fiscal year should begin or end and our former custom of running from April to April was, for many reasons, unsatisfactory and unbusiness-like. The time will be changed to correspond with the calendar year, that is, from January 1st to December 31st. Secretaries are urged to take notice of this proposed plan. In this connection the meeting adopted a uniform system of receipt blanks to be used by the county secretaries. They will be furnished to each county secretary prior to January 1st and their use will obviate the possibility of error in bookkeeping. It is also recommended that county secretaries send money collected from members direct to the *State Secretary*, who will, in turn, forward same to State Treasurer.

The question of medical defense against suits for malpractice was discussed and the idea was heartily endorsed, and the next House of Delegates will, no doubt, adopt this as an added attraction to state membership in the Association. It is with this in view that it becomes so necessary to have a definite fixed time for our fiscal year to begin and end.

The reports from the councilors in attendance relative to organization were of a unit. They admitted freely their inability to organize the counties which are still without organization.

Another system, that of employing, in conjunction with the American Medical Association, a paid canvasser, will be tried and we trust that every doctor who reads this JOURNAL will lend him their assistance in order to bring every available doctor in Tennessee into the Association.

Legislative matters to be introduced to the next legislature were freely discussed and our needs along this line were forcibly brought out. The Association will back the legislative committee, morally and financially, and the January number of the JOURNAL will be devoted largely to this matter. You are urged to see your senators and representatives and ask them to

support these bills. Do not be content with simply asking, *but insist*.

The program committee were advised relative to invitations to be extended prominent out-of-state men and an effort will be made to increase the attendance at state meetings to five hundred or more. Many other matters of minor importance were discussed. The meeting adjourned after a continuous session from 10:00 a. m. to 4:00 p. m. without an interruption for lunch and the writer is free to say that when the business which was discussed at this meeting is put into law, it will be distinguished as the most important and far-reaching one ever held by the officers of the Tennessee State Medical Association.

OUR NEEDS.

With the ending of the old and the beginning of a new year, it is a time when we grow introspective and take stock, so to speak, of what we have accomplished and to think seriously of those things yet to be done. What we have accomplished is unnecessary for review but those things which are still to be attained constantly appear and remind us of our duty.

With an organization numbering more than fifteen hundred doctors extending over fifty-nine organized counties in Tennessee, (with at least another thousand doctors available in the state), it is entirely within the range of possibility to accomplish anything if we could only act in harmony and pull together.

Our legislative needs are many. In our September issue attention was called, editorially, to the most pressing needs along this line. We might remind you, however, that there are other problems which our organization must face in the future, such as; the proper regulation of the practice of Christian science, chiropractic, osteopaths, the itinerant fake and patent medicine doctor. We need medical defense for our members; we need to take more active interest in helping to found a home for the old and disabled doctors; we need a better journal and a home or central headquarters to be maintained throughout the entire year for the advantages of our members; we need a bureau of publicity

for the purpose of public education; we need to begin and prosecute with vigor a campaign of education for the uplift and betterment of our own profession. All these things can easily be realized if the total membership would get together and work shoulder to shoulder in a common cause. Above all we need enthusiasm; we need the spirit of our fathers to battle for our medical rights; we need the spirit of bigger men in order that personal jealousies and individual differences might be laid aside in the interest of our profession. This message will come as our Christmas greeting. We wish you a happy and merry day and trust that the new year may usher in to each and every one every success, much good health and individual prosperity. May we ask in return that when turning over your new leaf for the year, 1913, you make at least one resolution for us, and let it be that you will give to the cause of medicine just a little of your time, your assistance and your encouragement?

AMERICAN FELLOWS OF SURGERY.

The Clinical Congress of Surgeons of North America, at its recent meeting in New York, inaugurated a plan to create the title of Fellow of Surgery in this country similar to the title now conferred in Great Britain.

Considered in a large way, from the standpoint both of the interests of the profession and of the public, this is a commendable move. There can be no question that surgical work is being undertaken by a multitude of men whose qualifications are utterly inadequate. The clinical training necessary to evolve that skill and judgment upon which the issue of life and death so often hangs should be considered the *sine qua non* to the undertaking of major operations. Of course emergencies will arise when the services of a trained operator are not available and in such cases the best that can be had must suffice.

Two specific considerations must enter into any fair pronouncement on the subject. First, the patient's welfare is always the question of paramount importance. This is the fundamental principle of our vocation, the ideal without which we would deserve to rank as mere tradesmen. And this principle applies as well to the

humblest patient as to the one of most commanding social and financial influence. It is human life that is sacred—not the chance elements of birth and wealth. Second, the profession has long suffered from criticisms growing out of misapplied or unfortunate surgery. Too much surgery has been and is being done by far too many men. It seems rather hard to even intimate that the question of a surgical fee or the reputation to be made from a non-fatal operation should ever be the actuating motive of any physician's deeds. Yet such a conclusion sometimes seems unavoidable.

It is not proposed by the Clinical Congress to create a surgical aristocracy. The purpose is simply to set a standard by which American surgery may be judged and to offer an incentive to all who would be surgeons to prepare themselves for the responsibilities they wish to assume. Certainly the purpose is worthy and should have the endorsement of the entire profession. Whether the Clinical Congress is the proper medium through which the project should be launched, we do not undertake to say. It is, however, of exceeding significance that the movement should have originated there. The American Medical Association might well concern itself in the matter, as strictly in line with the splendid work it has already done in the cause of general medical education.

We hail the day when the title "Fellow of Surgery" may carry the same distinction and mean the same to both the public and the profession in America as it does in England today.

DANGERS OF COMMON COLDS.

Ever since the influenza epidemic of 1889-90 we have experienced waves of infectious catarrhal colds which have been spoken of as influenza, or grip, or simply as colds. To these infections the infant seems to be especially susceptible. When one of these colds invades a

household, several of its members usually contract it. While some adults may escape, the baby or the child of runabout age is almost invariably affected. These infections spread rapidly and with great certainty through the wards of institutions caring for young children. During recent winters in one institution the sickness from this source has far exceeded that from all other infectious diseases of childhood. One of the most important results is its interference with nutrition. This is of somewhat less importance among children of the runabout age, but in any group of bottle-fed infants such infection not only prevents gain but is, as a rule, accompanied by definite loss in weight. We are too prone to look on these colds as local affections when they are, in reality, infections.

When a group of children in a family becomes infected, we often see established a house infection with, at intervals, recurrent outbreaks, which may extend over a number of months, until the advent of warm weather or the departure of the family to the country. This experience is so general in New York as to be a matter of common report among parents. Some susceptible children are kept free only by continued residence in the country, but unfortunately suburban colonies and country towns have their own share of infectious epidemics.

The amount of injury done young children each year by such colds can scarcely be estimated. During the prevalence of such colds, the possibilities of infection are excellent if the young child travels by train, rides in public conveyances or is taken to hotels or crowded shops.

Only recently, says Dr. Thomas S. Southworth, of Boston, in a recent issue of *The Journal of the American Medical Association*, have we begun to appreciate the ravages of these subtle forms of infection. With such knowledge, however, goes the moral obligation to throw off our indifference, to face the question fairly, and to do all in our power to lessen the unnecessary sickness and the too frequent pneumonia which follows it.

NEWS ITEMS.

Dr. J. W. Maddin, of Nashville, is seriously ill of erysipelas.

Dr. P. A. Tinsley, of Dandridge, has returned from Philadelphia, where he recently underwent an operation for appendicitis.

Master Howard Jefferson Curtis, was a welcome visitor of Dr. and Mrs. H. C. Curtis, of Algood, on November 12, 1912.

Dr. B. M. Tittsworth and wife, of Jefferson City, attended the meeting of the Southern Medical Association, held in Jacksonville, Fla., in November.

Drs. Anderson and Huggins, of Dandridge, were prevented from attending the meeting of their county society, on account of their autos breaking down.

Dr. M. M. Hannum, formerly of Maryville, Tenn., has recently moved to Eustis, Fla., where he will continue the practice of medicine. We wish the doctor much success in his new location.

The Van Deman Building, located on the corner of 8th and Market Streets, Chattanooga, is being remodeled for the purpose of making it a physicians building exclusively. It will be ready for occupancy January 1, 1913. Every office, with the exception of three, has been leased.

Dr. J. M. Oliver, of Nashville, formerly an associate of Dr. W. W. Core, of Davidson County Asylum, was elected December 3 by the Board of Hospital Commissioners as Superintendent of the Davidson County Tuberculosis Hospital. We congratulate the Board upon their selection and trust that Dr. Oliver may succeed in increasing the efficiency of this much needed institution.

W. B. Saunders Company, medical publishers, are now established in their new building on West Washington Square—an ideal site right in the heart of Philadelphia's new publishing center.

The remarkable success of this house and the rapid growth of their business, with the increased facilities which this growth demanded, necessitated removal to larger quarters. They therefore erected a seven-story building, housing all their departments under one roof.

Constructed of reinforced concrete, the building is absolutely fireproof and equipped with every modern aid for the manufacture and distribution of medical books and for the comfort and convenience of their employes.

A cordial invitation is extended the profession to inspect the new plant.

The Middle Tennessee Medical Association met in Shelbyville, November 21-22, with the largest attendance in the history of the Association. A number of physicians from Nashville drove out in their autos. The papers were of a high order and discussion was unusually liberal.

At the open meeting held at Brandon's Training School, President C. L. Goodrich, of Fayetteville, gave a timely address on matters pertaining to legislation in this state, which was well received. Dr. Olin West, of Nashville, spoke on "The Great American Fraud" and it is needless to say, handled the patent medicine fake in his usual pleasing style. Dr. C. A. Robertson, of Nashville, addressed the audience on "The Curability of Tuberculosis in Tennessee." The physicians of Shelbyville tendered the visiting physicians a banquet at the local hotel, at which Dr. Guy Frierson, of Shelbyville, acted as toastmaster. Responses were made by the Rev. Donald MacQueen, Dr. J. A. Witherspoon, and others. The affair was an unusually enjoyable one and the courtesy extended the visitors by the local profession was highly appreciated.

The following officers were elected for the ensuing year: President, Dr. R. L. Jones, Nashville; Vice-president, Dr. T. J. Coble, Shelbyville; Secretary-Treasurer, Dr. R. W. Billington, of Nashville.

The next meeting will be held in Dickson, Tenn., in May, 1913.

The visit by a party of German physicians to the recent International Congress on Hygiene and Demography has proven that a well-managed travel study party of physicians can make a trip through a foreign country in a far more pleasant and profitable manner, and at less expense, than can be done by traveling alone. Clinics can be arranged in advance, lectures prepared and visits made to the best hospitals and health resorts, with the assurance of a hearty welcome from the leading medical men of the localities visited. For those unable to speak the languages of the countries on the continent, this disadvantage is reduced to a minimum and the benefits of the trip correspondingly increased by traveling with such a party.

The coming International Medical Congress, London, August 6-12, 1913, gives a splendid opportunity for organizing an American tour of this sort and plans are now ready for a Physicians Travel Study Tour, leaving New York, July 3 for the most important capitals and health resorts on the European continent: Paris, Munich, Carlsbad-Marienbad, Dresden, Berlin, Nauheim, Wiesbaden, Cologne, Brussels, the Hague, Amsterdam, etc., ending with the week of the Congress in London.

The plan of this tour has been seen and endorsed by Drs. A. Jacobi, T. C. Janeway, Ch. G. Kerley, O. G. T. Kiliani, L. R. Williams, Wisner R. Townsend, and others. Physicians interested in such a trip should write for further and more detailed information to Richard Kovacs, 236 East 69th St., New York City.

To the readers of the Journal of the Tennessee State Medical Association: About six years ago the writer began to use vaccines in the treatment of typhoid fever. Since that time he has thus treated more than one hundred cases and has obtained numerous articles upon the same subject written by physicians in various parts of the world. It seems possible, however,

that some may have escaped notice. He also realizes that many of the profession may have treated some cases without reporting them. A paper upon the subject is now in the course of preparation. In this it is earnestly desired to incorporate reports from a large number of cases, good, bad, and otherwise. He accordingly makes the following request to the readers of this JOURNAL:

Will any one who has used vaccines in the treatment of typhoid fever, whether but one case or more, kindly communicate to him that fact accompanied by name and address of the reporter. If the results have already been reported, a note of the JOURNAL in which they appeared will be sufficient. If they have not been reported, a short blank form will be sent to the physician to be filled out. Due credit will be given in the article to each person making a report. If any physician happens to know of other confreres who have any such cases, it will be appreciated if he sends their names, as they may not happen to read this note. It is hoped that by this means a sufficient number of cases may be collected to somewhat definitely settle the now mooted question whether vaccines are or are not of benefit in typhoid therapy.

Reports of cases will be accepted at any time in the future but preferably by November or December of the present year.

Kindly communicate with Dr. W. H. Watters, Director of the Department of Pathology and Bacteriology, Evans Institute for Clinical Research, Boston, Mass.

Dr. Jno. A. Gaines, of Nashville, left December 13th for a two weeks' vacation in Florida.

MARRIAGES.

The marriage of Miss Clara Wallace to Dr. Chas. G. Griffin, both of Nashville, took place at the home of the bride, November 26, 1912.

COUNTY SOCIETY PROCEEDINGS.

HENDERSON COUNTY.

Henderson County Medical Society was called to order by President, Dr. W. B. Keeton; minutes were read by Secretary, Dr. W. F. Huntsman, and approved.

The following doctors read papers which were freely discussed by all present; Medical Treatment of Appendicitis, by Dr. J. M. Arnold; Surgical Treatment of Appendicitis, by Dr. S. T. Parker; Diagnosis and Treatment of Typhoid Fever, by Dr. R. L. Wyley. After the discussion of various subjects the president took up the election of officers with the following results: Dr. C. E. Bolen was nominated and elected by acclamation to serve as president for the year 1913, he was escorted to the chair by Drs. J. M. Arnold and Samuel T. Parker; Dr. G. A. Brandon was elected First Vice-president; Dr. R. L. Wyley, Second Vice-president; Dr. Samuel T. Parker, Secretary; Dr. W. T. Watson, representative to the State Medical Society; Dr. J. M. Arnold, alternate. The retiring president, Dr. W. B. Keeton, made a splendid speech which is as follows:

"Fellow physicians of Henderson County Medical Society, it is with mingled feelings of appreciation and regret that I vacate this chair, appreciative of the honor you have conferred upon me by electing me the president of this association. The physician of today means something more than a haphazard diagnosis and a private index to *Materia Medica*; it means keeping abreast with the rapid rush of experience which from Vienna to Baltimore are continually changing our profession, from a black art to a science.

In olden times the sick man was conveyed to the Temple sacrifice and absolution was had, the sick man was made to sleep upon the hide of a sacrificed animal while sacreligious rights were performed, but since the days of Asclepiades and Hippocrates we have been continually upon the progressive road.

"Prior to 1842 the agonizing cry of the suffering victim placed by accident of disease beneath the cruel steel could easily be heard which bore testimony to the need of anaesthesia, every heart that is touched and thrilled by the inspiring notes of Dixie should rejoice at the Sunny

South for having given us such a man as Crawford W. Long, who discovered ether. Simpson came a short time after with the discovery of chloroform. With these two agents the patient is made to take his quiet, peaceful sleep while the surgeon's knife does its needed work. Before Dr. Gener's great discovery, the dread plague of smallpox had roamed the world at large, ravaging whole armies, depopulating entire towns and cities; it is today a thing of the past.

"The microscope and the discovery of germs was another great effort in our history, before the discovery of germs we had a poor show to cure and none to prevent a disease.

"Our greatest work is now being done in preventing diseases, as is shown in malaria and yellow fever, the discovery of those germs with the species of mosquito that carry it has enabled us to entirely stamp out yellow fever and within a few years malaria will be a thing of the past.

"I would rather have been Dr. Pastuer, demonstrating to the world the serum treatment than to have been Napoleon Bonaparte crossing the bridge of Dialow or Ulysses S. Grant receiving the sword of Lee. Before the days of Antitoxine, the mortality rate of diphtheria was 85 per cent, today it is seven per cent. The medical profession is the poorest paid of all professions combined, many a dark night have we all gone accompanied by no companion save by a faithful steed only to be consoled by the scream of the owl from the tree tops and the melancholy notes of the whippoorwill, probably to find some poor creature lying upon a heap of filthy rags, covered by the tattered spreads, receiving as a compensation for our service only that we have been able to help our fellowman.

"Let a man try to employ an attorney, the first question is 'where is my money coming from?' The doctor is always called in haste, for life sands are sinking fast, how often have we heard them say this prayer 'Oh Lord God if you will help me up this time I will be a better man I will live closer to you, I will be better to the church,' 'Oh doctor, you have been so good to me, I have not paid you as I should, but if you will help me up this time, the first money I get is yours,' but as soon as danger is over the patient is delighted, God is forgotten and the doctor is slighted."

SAMUEL T. PARKER, Secy.

RUTHERFORD COUNTY.

The Rutherford County Medical Society met in Murfreesboro, November 6, at 2 o'clock.

Members in attendance were: Drs. A. E. Goodloe, E. H. Jones, M. B. Murfree, A. J. Jamison, B. N. White, S. C. Grigg, and R. W. Read, of Murfreesboro; J. C. Overall, of Lascassas, and Rufus Pitts, of Route No. 3, Murfreesboro.

Essayist was Dr. E. H. Jones.

Dr. A. E. Goodloe offered a resolution to change the meetings from every Wednesday to the first Wednesday in each month. This will be taken up for final action at our next meeting.

RUFUS PITTS, M. D., *Secy.*

The Rutherford County Medical Society met in regular session on November 13, in the office of Dr. E. H. Jones, of Murfreesboro.

Dr. R. W. Read presided.

Members present were: Drs. M. B. Murfree, E. H. Jones, V. S. Campbell, A. J. Jamison, R. W. Read, S. C. Grigg, B. N. White and A. E. Goodloe, of Murfreesboro; and Rufus Pitts, of Route No. 3, Murfreesboro.

Some instructive cases were reported by Drs. B. N. White, E. H. Jones and Rufus Pitts, which were well discussed.

The resolution to change our time of meeting was adopted at this meeting, and in future we will meet every first Wednesday in each month.

RUFUS PITTS, M. D., *Secy.*

JEFFERSON COUNTY.

The Jefferson County Medical Society met in regular session December 3. Meeting was called to order by the President, Dr. W. L. Tadlock, at 10:30 a. m.

Minutes of the previous meeting were read and approved. Dr. B. M. Tittsworth presented a paper on "Tuberculin and Its Treatment," which was discussed by Drs. Roberts, Brown, O. W. Hill, Sawyers, McCartar and Tadlock.

Dr. Oliver Hill, of Knoxville, gave a most interesting talk on "Broncho-pneumonia." This was discussed by Drs. Tittsworth and Brown.

Meeting then adjourned to meet again at 1:15 p. m.

AFTERNOON SESSION.

Dr. T. L. McCartar read a very interesting paper on "Prolapsus Uteri," which was discussed by Drs. King, Walker, Lequire, Roberts, Tittsworth and Tadlock.

Dr. G. D. Lequire, of Tampico, made application for membership.

The following officers were elected for 1913: President, Dr. J. H. Walker, of White Pine; Vice-president, Dr. J. C. Anderson, Dandridge; Secretary, Dr. B. M. Tittsworth, Jefferson City; Treasurer, Dr. P. A. Tinsley, Dandridge; Censor, Dr. T. L. McCartar, Piedmont; Delegate to State Society, Dr. N. M. Dukes, Straw Plains; Alternate, Dr. B. M. Tittsworth, Jefferson City.

The following members paid dues for 1913: Drs. W. F. King, T. L. McCartar, D. G. Lequire, J. H. Walker, W. E. Roberts and B. M. Tittsworth.

Subjects for next meeting are as follows:

Anatomy of the Female Pelvis, by Dr. W. L. Tadlock. Collis and Potts Fracture, by Dr. W. F. King. La grippe, by Dr. T. L. McCartar.

Newly elected president, Dr. Walker, was conducted to the chair by Drs. King and McCartar.

We were very glad to have with us as visitors, Drs. Hill and Sawyers, of Knoxville, who made some good talks for us.

Had a splendid meeting which was enjoyed by all.

Adjournment at 3:30 p. m.

J. H. WALKER, M. D., *President*,

B. M. TITTSWORTH, M. D., *Secretary*.

WASHINGTON COUNTY.

The Johnson City and Washington County Medical Society met with the secretary in its regular monthly session. After the reading and approval of the minutes of the previous meeting, the reports of clinical cases were in order and Dr. Randall reported an interesting case of hemorrhage, supposed to be from duodenal ulcers, in which the patient is very low at this time, being nursed and cared for to have an operation for relief. This case was extensively discussed by all members. Those present at this session were: Drs. Arnold (County Health officer), West, Long, Broyles, H. D. Miller, Matthews, Kennedy, and Randall. Visiting: Dr. Sherrell, (Col.) Dr. Kennedy was the essayist for the evening and his subject was, "Scarlet Fever," as announced. The doctor read a most excellent paper and was especially complimented for its briefness and condensed form without detracting any weight from same; the practical way in which the subject was treated by the essayist was highly complimentary. The paper

was thoroughly discussed and in a friendly professional way only slight criticisms were offered, and that was the mode of communication, mainly on the infection being communicated through the alimentary canal for which he offered authority. The peculiar erythematous eruptions came in for its part in the differential diagnosis. The weight of the discussion was on the importance of diagnosis; treatment and prevention were of minor importance from a point of discussion as this was well established. This being the occasion for the election of officers the matter was taken up and the following were elected by ballot: President, Dr. H. D. Miller; Vice-president, Dr. J. F. Arnold; Secretary and Treasurer, Dr. J. W. Cox (re-elected).

The good feeling and interesting work being done by the society is a stimulus to all who attend and the society is becoming an active factor at this place for the public good as well as professional welfare.

Dr. E. A. Long is the essayist for the next session, the first Thursday night in January, at which time we hope all tardy members will be present and participate in the discussions, etc. The proceedings of this society will always appear in the State JOURNAL, which the members in good standing get in time to know when to attend and we are desirous that they be observed in the future.

J. W. Cox, *Secy. and Treas.*

DYER COUNTY.

Dyer County Medical Society met in regular session in the county court room, Thursday, December 5, at 2:00 p. m. The following officers were elected for the ensuing year: Dr. Luther Edwards, Finley, President; Dr. R. L. Murph, Dyersburg, 1st Vice-president; Dr. D. T. Austin, Bogota, 2nd Vice-president; Dr. J. A. Ferguson, Dyersburg, Censor; Dr. O. Dulaney, Dyersburg, was re-elected Secretary and Treasurer; Committee on Legislation, Drs. J. D. Brewer, Newbern, C. A. Turner, and A. H. Moody, Dyersburg. Dr. R. L. Murph, county health officer, reported seven deaths at Mengelwood that had occurred within the last ten days, due to pernicious malaria, stating that the patients had had a few chills throughout the year which terminated in a sudden chill, patient dying within a few hours in a comatose condition. Most of

the remainder of the evening was devoted to discussing some needed medical legislation and in perfecting an organization to best accomplish this purpose.

O. DULANEY, *Secy.*

GREENE COUNTY.

The Greene County Medical Society met, in regular session, in the office of Dr. S. W. Woodyard, Greeneville, at 10:00 a. m., October 7, 1912, with Dr. H. M. Taylor in chair.

The following members were present: Drs. S. W. Woodyard, M. G. Price, T. H. Woolsey, H. C. Borden, H. M. Taylor, J. S. Wilhoit, J. D. Campbell, H. A. Simpson, J. B. Bell, S. T. Brumley. Visitor, Dr. Frank Lane.

The program was taken up and Dr. T. H. Woolsey excused from reading his paper. Dr. J. B. Bell then presented a most excellent paper on Dysentery, which was discussed by Drs. Campbell, Woolsey, Simpson, Taylor and Blanton. Dr. T. H. Woolsey reported a case of supposed gonorrheal arthritis which was discussed by Dr. Taylor.

Society adjourned to meet the first Monday in January, 1913.

M. A. BLANTON, *Sec.-Treas.*

KNOX COUNTY.

The Knox County Medical Society met in regular session Tuesday evening, December 10th, with the following present: Drs. Austin, Allen, Atchley, Bowen, Booker, Carmicheal, Christenberry, Deaderick, Guynes, Hill, Haun, Hutson, Holloway, Copenhaver, K. C. Copenhaver, M. M. Jones, Kyle, Massey, Miller, S. M., Miller, S. R., Miller, T. P., Lynn, McCown, McCampbell, McReynolds, Nash, Newell, Newman, Kelso, Ristine, Tillery, Sherman, Sawyer, Shedd, West, J. Q. A., White, Zemp.

Visitors: Dr. McCulloch, of Maryville; Dr. P. H. Acuff, of Rutledge; several medical students, and the members-elect to the legislature, from Knox County, viz.: Hon. Norman Morell, Frank L. West, J. Parnick Smith and Dr. A. D. Albright, who were present at the invitation of the society.

Minutes of the previous meeting were read and approved.

This being an especial meeting for the pur-

rose of considering the question of "Needed Medical Legislation" the regular routine business was dispensed with.

The first essayist for the evening was Dr. S. M. Miller, who read a most excellent, short and concise paper upon the legislation needed to make the State Board of Health what it should be, and pointed out some of the deficiencies in the existing laws.

The next essayist was Dr. Chalmers Deadrick, who read quite an interesting paper upon the question of reciprocity.

The last essayist, Dr. S. R. Miller, then read a more elaborate paper upon some of the other phases of the subject such as legislation needed to regulate the practice of medicine, State Laboratory, inspection of public school children, and touched lightly upon other subjects.

The discussion was opened by Dr. G. W. Booker, health officer of Knox County, who was followed by Drs. Carmichael, McCampbell, Nash, Sheddan, Hill, and others.

The members of the legislature were then asked to discuss the subjects which they did in a very able and interesting manner.

Senator-elect Morell stated in concluding that when the proposed bills were introduced into the legislature that we should get copies of them, and discuss them in open meeting, and after we had thoroughly considered them, and added whatever amendments we thought necessary for their perfection, to send them back to him and that he would, not only promise to support such measures, but, would lend his personal influence to secure the passage.

Representative J. Parnick Smith said that if there was anything in the world that he knew nothing about, it was the science of medicine, and that he felt that the physicians of the State were in a much better position to know what was needed along this line than he was, and that he wanted the people to know that he was not going down to Nashville to play petty politics; that he had no ax to grind and no pet measure to work for, therefore, he would promise the Knox County Medical Society, after they had considered these bills, and acted upon them in their organized capacity, all they had to do was to notify him and that he would get into the fight teeth and toenails for their passage.

Representatives West and Albright expressed

about the same sentiments and pledged their support to such measures as the Knox County Medical Society would recommend in its organized capacity.

They all expressed their appreciation of the invitation to attend this meeting.

This being the regular meeting for the nomination of officers for the ensuing year the Judicial Council made the following nominations:

For President, Dr. L. L. Sheddan.

Vice-president, Dr. A. L. Rule.

Secretary and Treasurer, Dr. H. H. McCampbell.

Member on Council, Dr. W. S. Austin.

The secretary then read a letter from Dr. Robert Caldwell, of Nashville, promising to attend the next regular meeting which will be Tuesday evening, December 17th, and to read a paper upon the subject of "Modern Bone Surgery."

There being no further business the society adjourned to meet Tuesday evening, December 17th.

The encouragement given us by the different members of the legislature was very gratifying indeed and serves to show that all that the medical profession has to do to secure this much needed medical, and public health legislation, is to get in touch with their representatives and in some organized capacity take some action upon these propositions and go after what they want and not stop until they get it.

The great trouble has been the absolute indifference of the profession to these matters. When any legislation looking to the betterment of conditions is proposed, the enemies of same get busy, and never let up until they have succeeded in defeating it. The members of the legislature are not familiar with these things and, of course, if only one side is presented, and the other displays such absolute indifference as has been shown by the profession in Tennessee, they cannot be expected to act for the best interests of the people.

Let them know that we ask nothing for ourselves, but that we are going to have that which will elevate the standard of the profession to the high plane to which it is entitled, and that fraud, quackery and ignorance, must be put under the ban, instead of being placed at a premium.

L. SHEDDAN, M. D., *Secretary*.

DEPARTMENT OF ABSTRACTS AND BOOK REVIEWS

JOS. GALLAGHER, M.D., Review Editor

Assisted by Drs. O. N. BRYAN, R. W. BILLINGTON, E. B. CAYCE, H. M. TIGERT, JACK WITHERSPOON AND A. D. NICHOL

BRITISH MEDICAL JOURNAL, NOVEMBER 2, 1912.

Original Articles.

- *An Address on High Blood Pressure; Its Associations, Advantages and Disadvantages. Sir William Osler, Bart. M.D., F.R.S.
 The Calculation of Drug Dosage for Children. Walter J. Dilling, M.B., Ch.B.
 Successful Removal of a Tumor in the Adrenal Gland. H. Temple Mursell, M.B., M.C., F.R.C.S.E.
 Some Experiments with Ionic Medication. N. S. Finzi, M.B.
 A Case of Uremia Treated by Morphine. A. H. Carter, M.D., B.S.
 Two Cases of Peptic Ulcer of the Oesophagus. C. Gordon Watson, F.R.C.S.

Transactions of the British Medical Association.

Section of Tropical Medicine.

Papers Dealing with Trypanosomiasis:

1. J. W. W. Stephens, M.D., and H. B. Fantham, D.Sc., B.A.
2. F. K. Kleine.
3. Allan Kinghorn and Warrington Yorke, M.D.
4. Prof. F. Mesnil.
5. S. B. Wolbach, M.D., and C. A. L. Binger.

Papers Dealing with Leprosy:

1. Charles Duval, M.D.
2. Prof. M. E. Marchoux.
3. H. Bayon, M.D.

Papers Dealing with Leishmaniasis:

1. Capt. W. S. Patton, I.M.S.
2. R. Row, M.D., D.Sc.
3. H. B. Fantham, D.Sc., B.A.

Papers Dealing with Sanitation of the Agricultural Estates in the Tropics:

1. Malcom Watson, M.D., D.H.P.
2. W. Carnegie Brown, M.D., M.R.C.P.
3. W. F. Law, M.D., F.R.C.S.
4. K. S. Wise, M.B., B.S., and E. P. Minett, M.D.

Demonstration of Specimens Relating to the Transmission of Artificial Cultures of Leishmania Infantum to Mice and Rats. H. Bayon, M.D.

Helminthic Toxins. M. Weinberg.

Blood Determination in a Case of Katayama's Disease.

Fleet Surgeon Bassett-Smith, C.B., R.N.

Copro Itch. Aldo Castellani, M.D.

Note on the Importance of Hyphomycetes and Other Fungi in Tropical Pathology. Aldo Castellani, M.D.

On the Treatment of Elephantiasis of the Legs by Lymphangioplasty. Frank Cole Madden, M.D., F.R.C.S., Dr. Aly Ibrahim, and Dr. A. R. Ferguson.

*After a very unique and interesting introduction to this subject in which he compares the circulation of the blood to the river Nile and its influences, both natural and artificial, on Egypt, Prof. Osler takes up this subject under three heads: (1) Hyperpiesis; (2) Arterio-sclerosis with High Tension and Associated Cardiac and Renal Changes; (3) Chronic Nephritis with Arterio-sclerosis and High Pressure. By illustrative cases he shows that high blood pressure is not only harmless in some cases but a necessity to the life and well-being of many arterio-sclerotics and nephritics.

In the management of these cases he states it is first necessary to determine the nature of the case, whether simple hyperpiesis, arterio-sclerosis, or chronic nephritis, or

all combined. Quiet life, both mental and physical, lessened intake of food—a diet of low protoid content and a fairly large quantity of liquid—and the promotion of elimination in every way, are the most efficient measures. Of the drugs, the nitrites and potassium iodide (the latter in small doses over a long period of time) are the best, though these are often disappointing in their permanent effect.

J. F. GALLAGHER, M.D.

BRITISH MEDICAL JOURNAL, NOVEMBER 9, 1912.

Original Articles.

- *The Huxley Lecture on Recent Advances in Science in Relation to Practical Medicine. Some Problems in Infection and Its Control. Prof. Simon Flexner, M.D.
 The Bradshaw Lecture on the Diagnosis and Treatment of Incipient Pulmonary Tuberculosis. David B. Lees, M.D., M.R.C.P.

Transactions of the British Medical Association.

Section of Pathology:

- Discussion on Bright's Disease. Introduced by J. Lorrain Smith, M.D.
 Some Falacies in the Routine Testing of Urine. Hugh Maclean, M.D., M.Sc.
 The Excretory Function of the Intestine and Its Relation to Disease. Owen T. Williams, M.D., B.Sc., M.R.C.P.
 The Investigation of Puncture Fluids as an Aid to Diagnosis and Treatment. T. J. Horder, M.D., F.R.C.P.
 The Association of Chronic Duodenal Ulcer with Morbid Conditions of the Ileum, Appendix, and Colon. D. P. D. Wilkie, M.Ch., F.R.C.S.
 The Etiology of Dissecting Aneurysm. T. Shennan, M.D., and J. H. Harvey Pirie, M.D.
 The Role of the Gastric Juice in the Pathology of Gastric Ulcer. C. Bolton, M.D., F.R.C.P.

Section of Bacteriology.

- Discussion of Vaccine Therapy. Introduced by John Eyre, M.D., M.S.
 On the Direct Cultivation of Tubercle Bacilli from Tuberculous Tissues. John Cruickshank, M.B., Ch.B.
 A Study of the Pyrogenetic Properties of the B. Typhosus. E. C. Hort and W. J. Penfold.
 A Case of Pyemic Actinomycosis with an Actinomycotic Endocarditis. George Dean, M.A., M.B., C.M.
 The Variations in the Morphological Characters of Bacteria and Their Reaction with Sugars under Different Conditions. Drs. J. M. Beattie and A. G. Yeates.
 Observation on Brownian Movement with Special Reference to the Anthrax Spore. Prof. E. Emerys-Roberts and Dr. S. B. Walsh.
 On the Bacteriology of an Infective Disease Occurring in Rangoon. Capt. A. Whitmore, I.M.S.

*In this lecture Dr. Flexner deals mainly with the work done by him on infantile paralysis at the Rockefeller Institute, New York. While the exact cause of poliomyelitis is yet unknown, Flexner has proved the causative agent to be one invisible to the ultra-microscope; is capable of passing through the finest Berkefeld filter; and probably belongs to the class of filterable parasites discovered by Loeffler in 1898, of which the viruses of yellow fever, dengue, poliomyelitis,

and many maladies of domestic animals form a group of about eighteen different diseases. The degree of infectivity of poliomyelitis is almost fabulous, 1-1000 c cm of a filtered 21-2 per cent suspension of spinal cord of a monkey being capable of producing the disease when injected into the spinal cord of another monkey. The mode of entrance in man is undoubtedly via nose and olfactory nerves, whence it passes to the cerebro-spinal fluid and nerve system bathed by this fluid. For the prevention and cure of this disease "none of the serums" he has made "can be regarded as having more than touched the fringe of the problem. . . ." Specific chemical therapeutics has been tried, especially hexamethylenanin (urotrophin) and modifications of this drug, but not with any marked degree of success.

J. F. GALLAGHER, M.D.

BRITISH MEDICAL JOURNAL, NOVEMBER 16, 1912.

Original Articles.

An Address on the Duties of the State in Regard to Tuberculosis. Arthur Ransome, M.D., F.R.C.P., F.R.S.

Tuberculosis in General Practice, with Special Regard to Tuberculin Treatment. J. A. Gibb, M.D., C.M.

Reflection on the Importance of Toxin Saturation of Tissues. Considered in the Relation to the Treatment of Pulmonary Tuberculosis. Edward E. Prest, M.A., M.D.

The British Medical Association. Section of Diseases of Children.

Discussion on the After Results of Major Operations for Tuberculous Disease of the Joints. Introduced by Harold J. Stiles, M.B., F.R.C.S.

Discussion on the Dyspepsias of Childhood After the Period of Infancy. Introduced by R. Hutchison, M.D., F.R.C.P.

Fibrous and Fibro-Cystic Osteitis. R. C. Emslie, M.S., M.R.C.S.

Spasmodic Contraction of the Peroni in Flat Foot. G. C. E. Simpson, M.B., F.R.C.S., and Naughton Dunn, M.B.

Spasmodic Club Foot. T. R. W. Armour, M.B., and Naughton Dunn, M.B.

Physiological Scoliosis. Dr. Murk Jansen.

Imperforate Anus with Perineo-Scrotal Orifice. Geo. H. Edington, M.D.

A Recent Case of Lorenz's Operation Demonstrating by X-Rays the Development of the Acetabulum. W. S. Haughton, M.D.

Tuberculous Infection and Tuberculous Disease in Infancy and Childhood. C. Paget Lapage, M.D., M.R.C.P.

Section of Neurology and Psychological Medicine.

Discussion on the Psychoses of the Cimacteric. Introduced by R. Percy Smith, M.D., M.R.C.P.

INTERSTATE MEDICAL JOURNAL, NOVEMBER, 1912.

*The Malaria Problem, with Special Reference to Education and Diagnosis. Thomas W. Jackson.

Treatment of Hemorrhagic Conditions with Normal Human Blood-Serum. Louis A. Levison.

Excision of the Parotid Gland for Mixed Tumor. W. S. Wiatt and C. A. W. Zimmermann.

†Hypotension—Its Clinical Significance. F. A. Faught. Diagnosis and Treatment of Syphilis in Pregnancy. Robert H. Davis.

Internal Urethrotomy and Urethrotomes. H. McClure Young.

Syphilis of the Stomach, with Report of Two Cases of Syphilitic Tumors. Jesse S. Myer.

Gumma of the Prostate, with Report of a Case. Abner H. Cook.

Recent Advances in Cancer Research. Moyer S. Fleisher.

Poliomyelitis. Nathaniel Allison.

*Education is truly the great prerequisite to success in anti-malarial campaigns, and this education begins within the ranks of our profession.

There is no good reason why tuberculosis, pellagra, hookworm infection, and syphilis should crowd from the public stage the one disease which is most naturally and rationally preventable, accurately diagnosable and specifically curable.

It is hardly realized that "malarial carriers" in infected communities are principally responsible for continuing the disease from season to season, just as cholera carriers in the Philippines and typhoid carriers in the perpetuation of these diseases by furnishing new infecting material.

Search should not be made at the height of paroxysm, as the beginner will probably not find parasites, though whereas in six to twelve hours he will easily do so.

†Dr. Faught gives us a most interesting essay on Hypotension. He remarks that in the study of blood pressure nearly all our attention has been directed to hypertension and very little to conditions causing reduction in normal blood pressure.

The lowest pressure compatible with life, according to Neu, is 40-45 mm hg. He has seen recovery after temporary fall to 50 mm.

For clinical purposes we recognize several types of hypotension: terminal hypotension; essential, primary or true, and relative hypotension.

Poor circulation, neurasthenia, dilated heart, lumbago with phosphaturia, show hypotension and a rise in blood pressure is indicative of progress toward recovery.

Quoting Gibson, he says: "When the blood pressure in pneumonia, expressed in mm hg, does not fall below the pulse rate expressed in beats per minute, the fact may be taken as an excellent augury, while the converse is equally true."

In epileptic coma the blood pressure is always low. Here it constitutes a valuable differential sign between this condition and uromia.

JACK WITHERSPOON, M.D.

JOURNAL OF THE A. M. A., NOVEMBER 2, 1912.

*Gall Stones Coincident with Other Surgical Lesions. J. G. Clark, M.D.

Sporotrichosis in Man. With a Summary of the Cases Reported in the United States and a Consideration of the Clinical Varieties and the Important Factors in the Differential Diagnosis. W. W. Hamburger, M.D.

The Application of Conservative Surgery to Ovarian Dermoids. A. C. Martin.

Bi-lateral Fibromatosis of Ovaries, with Ossification of Ovarian Fibroma. J. A. Robertson, M.D.

Influence of Sodium Iodoxybenzoate on Reactions of Inflammatory Character. Samuel Amberg, M.D., and J. M. Knox, Jr., M.D.

The Retail Pharmacist as a Purveyor of Pure Drugs. Henry Kraemer, Ph.D.

The Quality of Drugs on the Market. L. F. Kebler, M.D.

Drug Plant Cultivation. R. H. True, Ph.D.

Multiple Sclerosis. L. H. Mettler, A.M., M.D.

A Case of Multiple Cerebrospinal Sclerosis, Presenting Unusual Symptoms Suggesting Paresis. Clinical and Pathologic Findings. F. X. Dercum, M.D.

Ileus Considered Experimentally. Angus McLean, M.D., and R. C. Andries, M.D.

Some Common Types of Hyposecretion of the Thyroid. O. T. Osborne, M.A., M.D.

The Importance of Careful Investigation Before Removing or Destroying Organs. R. E. Castelow, M.D.

*John G. Clark calls attention to the advisability of examining gall bladder and bile ducts as routine when the abdomen is opened. Over half female abdomens opened are for pelvic operations, and in these 8 to 10 per cent will show gall stones if looked for. The commonest coincidence was gall stones and myomata-uteri.

He gives arguments for and contraindications to removal of gall stones at time of primary celiotomy, discussing increased mortality, greater shock, prolongation of period of convalescence, etc., and concludes:

1. Gall stones give rise to symptoms in a much larger proportion of cases than is commonly supposed.

2. Many cases "chronic indigestion" are cholelithiasis.

3. Gall stones are not necessarily innocuous when they are producing no symptoms, but may produce fatal lesions when their presence is unsuspected.

4. Unless contraindicated, the gall bladder, as well as the appendix, should be examined in all cases of celiotomy; and gall stones, if present, should be removed whether they offend or not; provided the patient's local and general condition is favorable.

Discussion, Dr. Charles H. Mayo: Much of the progress of surgery has come about from the surgeon's observation through a larger incision of the actual diseased conditions; and observation has shown that some years ago one-sixth of all people operated on by the abdominal route were not relieved of their symptoms.

Dr. Clark does not examine upper abdomen when the primary celiotomy is for pyosalpinx.

JACK WITHERSPOON, M.D.

JOURNAL OF THE A. M. A., NOVEMBER 9, 1912.

The Hospital as a Factor of Interest to the Medical Profession. W. B. Russ.

The Hospital in Relation to Medical Science. W. H. Welch, M.D.

*A Clinical View of the Special Diet. H. D. Arnold, M.D.

The Hospital Versus the Home in the Care of the Sick. P. E. Truesdale, M.D.

Relation of the Physician to the Hospital. J. B. Murphy, A.M., M.D., LL.D.

The Proper Division of the Services of the Hospital. H. M. Hurd, M.D.

A Few Problems of Hospital Organization. F. A. Washburn, M.D., and L. H. Burlingham.

The Medical Superintendent. H. B. Howard, M.D.

Individual Prophylaxis in Children's Hospitals. Isaac A. Abt, M.D.

Out-Patient Work the Most Important and Most Neglected Part of Medical Service. R. C. Cabot, M.D.

The Efficiency of Out-Patient Work. M. M. Davis, Jr., Ph.D.

The Relations of the Hospital in Corporations Interested in Patients. S. C. Plummer, M.D.

The Legal Aspects of the Relations of Hospitals to Corporations Interested in Patients. M. L. Bell.

The Relations of the Civil Hospital to the Military Establishment in Time of Peace; in Time of War. Charles Richard, M.D.

Hospitals and the Health Problem; with Special Reference to the Necessities of Rural America. E. E. Munger, M.D.

A Quick Method of Accurately Differentiating the Species of Hookworm of Man. E. R. Stitt, M.D.

Intestinal Parasites in the South. H. B. Wood, M.D., D.P.H.

Thyroid Extract in Nephritis: A Preliminary Statement of a New and Effective Method of Treatment. J. F. Percy, M.D.

Muscle Group Isolation in the Treatment of Spasticities and Athetoses. L. J. Pollock, M.D., and E. B. Jewell, M.D.

Suggestions of Operation and the After Treatment of Empyema. C. M. Rensen, M.D.

The Role of Milk in the Causation of the Chicago Epidemic of Sore Throat. Jos. A. Capps, M.D.

*Dr. Arnold complains that the average physician and hospital superintendent pays too little attention to the nutritive value of his patient's diet. The usual light diet of the hospital is not adequate to the needs of the system in typhoid and like diseases of long duration. The patient is made to suffer partial starvation plus the disease.

It is as necessary to limit the protein in nephritis as to limit the carbohydrates in diabetes.

Each hospital needs a trained dietitian, and her post is in the general kitchen and not in a small diet kitchen to supervise the making of special diet.

Tubercular patients do better with less stuffing of eggs and milk.

JACK WITHERSPOON, M.D.

THE JOURNAL OF THE A. M. A., NOVEMBER 16, 1912.

Recent Advances in Plastic Surgery of the Bones. J. B. Roberts, M.D.

Obstetrics in General Practice. G. J. Hagens.

Blood Changes Caused by the Hypodermic Administration of the Cancer Proteid. J. Walter Vaughn, M.D.

Adhesions and Constrictions of the Bowel; Their Demonstration and Clinical Significance. G. E. Pfahler, M.D.

*The Study of the Urine in Nervousness. Ed. B. Angell, M.D.

Convulsive Seizures Associated with Postmenstrual Gastro-Intestinal Disorders. Arthur Conklin Brush, M.D.

Three Cases of Bubonic Plague in Havana. Juan Guiteras, M.D.

The Treatment of Papillary Tumors of the Urinary Bladder with High-Frequency Current (Oudin). Edwin Beer, M.D.

Cancer of the Bladder. R. F. O'Neil, M.D.

Results in the Treatment of Tumors of the Urinary Bladder. E. S. Judd, M.D.

A Filterable Agent the Cause of a Second Chicken-Tumor, an Osteochondrosarcoma. Peyton Rous, M.D., J. B. Murphy, M.D., W. H. Tyler, M.D.

Macrophagocytes in the Sputum of a Patient with Chronic Hemoptysis. J. E. Pottenger, A.B., M.D.

Fatal Hemorrhage from a Small Branch of the Vena Saphena Parva. David I. Macht, A.B., M.D.

*Angell: In the examination of urine by Heller's contact test a colored ring occurs at line of contact where a white band would show were it a specimen showing albumen.

Eliminating bile and indican this pigment ring varies from dark brown to bright red. It is almost invariably present in the urine of people who over-indulge in protein foods, and is simply an indication of toxemia.

This pigment ring, from whatever cause, is uniformly found in the urine of all nervous cases. This on the examination of something over 1,000 cases.

The frequency with which this pigment reaction in the urine is associated with the depression, worry and apprehension in persons who are "just nervous" is striking, to say the least.

Diet and habits corrected, the pigment ring disappears and recovery occurs.

JACK WITHERSPOON, M.D.

JOURNAL OF THE A. M. A., NOVEMBER 23, 1912.

Chemistry of Inhalation Anesthetics. Charles Baskerville, Ph.D., F.C.S.

*Spinal Anesthetics. Freeman Allen, M.D.

†American Statistics. J. F. Gwathmey, M.D.

Post-Operative Mortality from Anesthetics. A. H. Miller, M.D.

The Limitations of Nitrous Oxid with Oxygen as a General Anesthetic. Charles K. Teter, D.D.S.

Help in Surgical Anesthesia. J. E. Lumbard, M.D.

Spinal Analgesia. W. S. Bainbridge, Sc.D., M.D.

Anesthesia by Pharyngeal Insufflation. F. W. Pinneo, M.D.

Some Reasons for Surgical Failures in Children. LeGrand Kerr, M.D.

- Modification of the Ferguson Open-Drop Method Ether-Inhaler, and Mode of Etherization. C. E. Prudden, M.D.
- Nitrous Oxid-Oxygen Anesthesia with Report of a Fatal Case. M. Salzer, M.D.
- Resuscitation from Drowning; Continued Persistence of Heart-Beat; Death from Nonresuscitation of the Respiratory Centers. F. W. Hitchings, M.D.
- The Ability of Mothers to Nurse Their Children. J. P. C. Griffith, M.D.
- Supplemental Breast-Feeding in Infants. H. M. McClanahan, M.D.
- Some Cases of Hysteria Presenting Symptoms Usually Found Only in Organic Diseases. B. R. Tucker, M.D.
- The Reciprocal Influences of Morbid Conditions of the Mouth, Jaws, and General Economy. M. I. Schamberg, D.D.S., M.D.
- Temporary Toxic Amaurosis and Paralysis Following Injection of Ethyl Alcohol into a Chronic Empyema Sinus. L. Friedman, M.D.
- Cystoscope Holder. H. D. Furniss, M.D.
- Penetrating Abdominal Wall Wound by Revolver Bullet, Complicated by Twenty-two Intestinal Perforations; Operation and Recovery. A. B. Keyes, M.D.

*Freeman Allen reports 320 cases spinal anesthesia with no deaths and 19 failures.

In last 33 cases no failures, and attributes it to refinement in technic.

Uses stovain, novocain, and tropocain with epinephrin and has abolished the use of cocaine. Thinks most of the failures are due to the error of allowing the needle to slip out of the spinal canal just as the anesthetic fluid is being injected.

He hopes to have spinal anesthesia used in Massachusetts General Hospital eventually as routine in all cases of hernia, fistula in ano, hemorrhoids, varicose veins, varicocele, and hydrocele.

†James T. Gwathmey compares American with European statistics on anesthetics.

Hewitt combining Julliard statistics with those of Ormsby gets over 1,000,000 administrations with one death in 3,162 for chloroform and one in 16,302 for gas-ether.

At St. Bartholemew's Hospital, London, between 1875 and 1900 (twenty-five years), there were 80,255 administrations of chloroform, ether and gas-ether, with one death in 1,300 for chloroform, and one in 9,318 for ether and gas-ether.

Chloroform shows a much safer record in warm climates. American statistics taken from reports recently received from ninety-nine hospitals showed 157,453 ether anesthetics with one death in 5,623.

Nitrous oxid-ether sequence 41,435 with one death to 6,905.

Chloroform, 16,390 with one death to 2,048.

Chloroform-ether sequence, 16,054 administrations with two deaths. Anesthol given 6,129 times with one death.

Makes the following suggestions: A. M. A. should continue the collection of statistics. Those using ether by drop method should improve their technic and statistics by:

a. A preliminary medication of morphine and atropin or some similar drug or combination.

b. Commencing the anesthetic with two to four drops of essence of orange.

c. The drop method of anesthol until the patient reaches surgical anesthesia, and then a change to drop method of ether.

d. Replacing the drop method of anesthesia with some form of vapor anesthesia.

JACK WITHERSPOON, M.D.

AMERICAN JOURNAL OF ORTHOPEDIC SURGERY.

PHILADELPHIA, NOVEMBER, 1912.

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*The Etiology of Chronic Nontuberculous Arthritis—the Miscalled Arthritis Deformans. Leonard W. Ely, M.D.

Scoliosis. A Corrective Jacket Applied in Sections. E. H. Bradford, M.D.

The Treatment of Scoliosis (Fixed Type) by Plaster Supplemented by Pneumatic Pressure. John Prentiss Lord, M.D.

The Industrial Education of the Crippled and Deformed. H. Winnett Orr, M.D.

A Simple Operation for the Relief of the Deformity in Certain Cases of Volkmann's Paralysis. Leonard W. Ely, M.D.

Absence of the Bony Femoral Heads and Necks. John Ridlon, M.D., and Henry B. Thomas, M.D.

Traumatic Spondylolisthesis Following the Fracture of a Congenitally Deficient Fifth Lumbar Vertebra. Dr. A. H. Maccordick and Dr. J. Appleton Nutter.

Treatment of Traumatic Flat Foot. A. H. Cilley, M.D. Concerning the Operative Treatment of Claw Foot. James T. Watkins, M.D.

The Use of Carl Spengler's "I. K." Serum in the Treatment of Tuberculous Joint Disease, with Report of Cases. H. O. Eversole, M.D., and Charles Leroy Lowman, M.D.

The Pathology and Therapy of Congenital Dislocations of the Hip. Robert Wernsdorf, M.D.

Conservative Operative Treatment of Hammer Toe. William Jackson Merrill.

An Abdomino-Visceral Support. D. Gordon Evans, M.B., B.S.

*Of the three theories as to the cause of chronic nontuberculous arthritis—viz., tropic, metabolic, and infectious—Ely believes that all of this class of arthritides are infectious in nature, though he admits that proof in some cases is rather weak. He presents the various arguments both for and against the infectious theory. He presents numerous reasons why most of the so-called arguments against infection are not conclusive, but in nearly every instance can easily be reconciled with the facts in favor of it, assuming that the joint pathology is due either to the presence of bacteria themselves or to their toxins in the circulation. He says that the more careful the search for a focal cause the more often it will be found—a diseased tonsil, a suppurating tooth, ethmoid cell or ear, a gastrointestinal infection, a history of an old, perhaps forgotten, chancre. The author again calls our attention to his theory that the two tissues about a joint which are vulnerable to infection are the lymphoid synovia and the red or lymphoid marrow. He calls these the active tissues of the bones and joints and insists that these should be most carefully studied in determining the etiology and pathology of joint diseases.

R. W. BILLINGTON, M.D.

SURGERY, GYNECOLOGY AND OBSTETRICS.

NOVEMBER, 1912.

Original Articles.

Nephrectomy Without Drainage for Tuberculous Kidney. Wm. J. Mayo, M.D., Rochester, Minn.

Intracranial Division of the Auditory Nerve for Persistent Aural Vertigo. Chas. H. Frazier, M.D., Philadelphia, Pa.

Arthroplasty. James M. Neff, M.D., Spokane, Wash.

Osteo-Arthritis of the Spine; With a Report of Three Cases Complicating Disease of the Abdominal Viscera. F. M. Dickson, M.D., Philadelphia, and A. H. O'Neal, A.M., M.D., Wayne, Pa.

An Experimental Study of the Placenta Under Physiological and Pathological Conditions. (Ferments: "Vital" Staining.) Robert T. Frank, A.M., M.D., New York City.

Unsuccessful Surgery in Disorders of the Gall Ducts, Together with a Consideration of Naunyn's Cholangiolitis. Arpad G. Gerster, M.D., New York City.

A Case of Pseudohermaphroditism. L. A. Greensfelder, M.D., and L. C. Gatewood, M.A., M.D., Chicago.

*Report on Exophthalmic Goiter Based on the Experience of the Members of the Chicago Surgical Society. William Fuller, M.D., Chicago.

Concerning the Function of the Corpus Luteum; With Report of Case. C. B. Keenan, M.D., Montreal.

Department of Technic.

Technical Points in Prostatic Enucleation. J. Bentley Sequier, M.D., New York City.

The X-Ray in Gynecology; Review of the New Evidences. Robert L. Dickinson, M.D., Brooklyn.

Spinal Anesthesia, with Report of Surgical Clinics. W. Wayne Babcock, M.D., Philadelphia.

Rhinophyma. James C. Wood, M.D., Cleveland.

*This report covers the experience of most of the members of the Chicago Surgical Society and embraces about six hundred cases extending over periods varying from three to five years past. More than eighty per cent of these cases were subjected to medical treatment before surgical measures were instituted, and of all the therapeutic aids short of surgery, complete rest, enforced over long periods of time, was most beneficial. Proper hygienic surroundings, diet, sodium cacodylate and quinine hydrobromate are regarded as valuable adjuvants. Two reports showed complete cures of the severest type by this treatment. Fully eighty-five per cent of the cases showed a cure by operative treatment as regards both thyrotoxicosis and secondary changes in other organs. A few of the cases were not improved by surgery, one operator placing this number as high as fifteen per cent. A majority, however, had only a few cases which were not improved by surgical intervention.

As to the methods of operating, there was an almost unanimity of opinion, Kocher's being the one of choice; but as to the extent of surgery on the gland itself necessary in the several degrees of the disease, the widest possible divergence of opinion existed. Some advocated simple ligation of the poles, while others advised excision to the extent (in one member's cases) of one entire lobe, isthmus and one pole of the other lobe. It was the endeavor of all, however, to select the particular procedure applicable to each individual case. Drainage is important and recommended by all; and every effort is made to leave the posterior capsule intact, thus avoiding the recurrent laryngeal nerve and the parathyroids.

The immediate mortality was five per cent, though this percentage decreased as the technic was perfected and better selection of cases was made. Nothing tangible could be obtained as to the remote mortality. Ether was the anesthetic of choice.

A majority voiced the following as indications for operation: (1) Undue size producing; (a) embarrassment of respiration, (b) irritating cough, (c) difficult deglutition, (d) deformity. (2) "All cases of hyperactivity of the thyroid gland which are not at the same time suffering with acute exacerbations of the disease and in which other less radical measures have shown their inefficiency." Conservatism is urged in the radical therapy of Grave's disease in young girls at the beginning of puberty. It was impressed that the full advantage of surgery in the treatment of exophthalmic goiter is realized only when operation is performed early before complications and marked changes occur in other organs.

J. F. GALLAGHER, M.D.

THE PRACTITIONER'S VISITING LIST. Lea & Febiger, Philadelphia, Pa.

The next best thing to having an account is an accessible, permanent, legal record of it, and the writer knows of no better means of keeping this than the "Practitioner's Visiting List." This is issued in four styles to meet the varying needs of the practitioner. "Weekly," dated for 30 patients; "Monthly," undated for 120 patients per month; "Perpetual," undated for 30 patients weekly per year and "60 Patients," undated, for 60 patients weekly per year.

It also has a text portion, but just why we are unable to say unless it be for the same reason that many text-books are apparently published—viz., to sell them. This contains a table of weights and measures, a scheme of dentition, instructions for examining urine, an alphabetical table of diseases and their remedies, and many other things which every second-year medical student should know. However, this text takes up comparatively little space, and if one doesn't need it, there is no harm in its being there. But as a visiting list it is second to none, and it will save a busy practitioner

both time and money, if he will add this very necessary adjunct to the business side of his profession.

J. F. GALLAGHER, M.D.

PRACTICE OF MEDICINE (Medical Epitome Series). By Hughes Dayton, M.D. A Manual for Students and Practitioners. Second Edition, Revised and Enlarged. Pages, 318. Published by Lea & Febiger.

This condensed volume, like others in its class, meets a demand from the increasingly crowded medical student and the candidate before State board and other examinations. By such it will be found helpful. Otherwise, there is little excuse for such brevity in a treatise on this broad field of medicine. The practitioner who has not time to consult a more thorough reference is, to say the least, not doing his patients justice. Therefore, I am of the opinion that there should be small space on the shelves of the thorough and conscientious doctor for such epitomized volumes.

The classification of diseases (Osler's) as followed in this work needs no criticism, and the more common and important diseases, such as typhoid fever, pneumonia, etc., are very properly accorded a comparatively liberal discussion. The matter contained is well selected and arranged, and, were its field not limited as already suggested, there could be little criticism of the work.

R. W. BILLINGTON, M.D.

THE SURGICAL CLINICS OF DR. JOHN B. MURPHY. October, 1912. W. B. Saunders Co.

Since the appearance of these Clinics of Dr. Murphy last June the writer has heard a number of opinions expressed as to their merit, and the opinions were as varied as the men who expressed themselves; but those who were doing surgery were unanimous in the belief that they are of undoubted value to those who operate. There is no doubt, however, that their much-heralded approach by the publishers was disappointing in their appearance to the majority. This was due, perhaps, to a misconception as to their import and their limitations. To those who were familiar with Cabot's work in a similar vein in medicine, the reading of Murphy's cases was a distinct shock. It should be said to the credit of the latter, however, that his discussions are delivered off-hand just before operating, while Cabot's were written in the deliberative silence of his study.

The October issue shows an improvement in style, editing, etc., which is pleasing and which we hope will continue. The contents of this volume embraces Remarks on Anesthesia (and let us say in passing to those otherwise perfectly good practitioners who still believe chloroform to be the anesthetic of choice, that they, and indeed their patients also, will be more than repaid by the reading of what this master mind of surgery has to say on anesthetics); also, Nephrolithiasis, Cholecystitis, Colonic Adhesions, Exophthalmic Goiter, Retroversion of the Uterus, Ununited Fracture, Ankylosed Joints, and many other timely topics are discussed, giving the views and operative technic of this leader in surgery.

The clinics are unique, since they are neither monograph, treatise, or text-book, but just clinics; and while they are of doubtful value to the general practitioner, we are sure every one doing surgery will be greatly benefited by their careful perusal.

J. F. GALLAGHER, M.D.

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LITHOPEDION: PRESENTATION OF SPECIMEN; REPORT OF OPERATION.*

BY C. P. FOX, M. D.,

Greeneville.

Extra-uterine pregnancy has been recognized almost as long as there has been any knowledge of obstetrics.

In the writing of Albucasis during the 11th century extra-uterine pregnancy was described.

In a case published by Cordæus about the 16th century the fetus was converted into a lithopedion.

Israel Spach, in a work, published 1557, figures a lithopedion drawn in situ in the case of a woman with her abdomen laid open. He dedicated to the calcified fetus the following curious epigram: "Lucalion cast stones behind him and thus fashioned our tender race from the hard marble. How comes it that nowadays by a reversal of things, the tender body of a little babe has limbs nearer akin to stone?" Many of the earlier writers mention this form of fetation as a curiosity, but offer no explanation. A number of authentic cases have been reported in which the fetus has been retained in the abdomen as long as fifty years.

In this day of advanced abdominal surgery long retention of the extra-uterine fetus is exceedingly rare, and many surgeons of the larg-

est experience have never seen a case of lithopedion.

A letter recently received from Dr. Howard Kelly, of Baltimore, advises me that there has never been but one case operated upon in the Johns Hopkins Clinic.

Bainbridge, of New York, recently reported a case operated upon in the New York Skin and Cancer Hospital, and in his report says it is the only case he has ever seen in a large obstetrical and gynecological experience. Bainbridge in his report published in the *American Journal of obstetrics and disease of children* makes an extensive review of the subject and mentions thir-



LITHOPEDION.

*Read before the Tennessee State Medical Association, April, 1912.

ty-five cases which have been reported since 1900. Most of these cases were of early development and not completely calcified.

The specimen which I wish to present here is a fetus of seven months development, and completely calcified. The features are well preserved and every part can be recognized. The calcification has extended to the placenta—so that the entire mass is almost as solid as stone. It was carried in the abdomen of the mother for eight years.

The history of the case is as follows:

The patient, Mrs. S., thirty-three years of age, married three times and now living with her third husband, eight years ago missed her menstrual periods for seven months, during this time she had all the symptoms of a normal pregnancy as morning sickness, enlargement of the abdomen, fetal movement, etc., she had no history of pain, hemorrhage or shock, and believed herself to be normally pregnant until the seventh month when she was taken with labor pains, which she says, lasted her for a number of hours, when they suddenly ceased without delivery. After this she had very little discomfort, and resumed her usual manner of living. After a time she began to notice her abdomen was gradually getting less, and as the fetal movement ceased after the spurious labor, she suspected that something had gone wrong with the conception. As she herself was an illiterate woman, and lived in a mountainous section of country at a considerable distance from a competent surgeon, and was suffering no great discomfort, she went on for years without seeking relief.

She must have been a woman of unusual charm, that she should have been able to marry twice while carrying the child of her first husband in her abdomen. In this respect, I believe this case is unique, since in the history of all the cases reported I find none, who have been able to marry, who were carrying an abdominal pregnancy. Although, we have a number of cases reported in widows who have been widows for many years.

The patient was of tall slender figure, with sallow skin and cachectic appearance, looking older than thirty-three. Her circumstances were exceedingly poor, and she had evidently been enured to hard life which may have accounted

more than anything else to explain her premature ageing, and her anaemic appearance.

Menstruation began at fourteen and was regular and normal till eight years previous, when pregnancy occurred, after a cessation of seven months, it returned on the eighth month, one month after the spurious labor, since which time it has been perfectly regular, although during the last year, accompanied by great pain, and has been much more profuse, lasting about ten days.

During the year or more previous to the operation she has suffered a great deal of pelvic discomfort, especially when on her feet, and has had to spend much of her time in bed. One of her most serious discomforts was obstipation, so that she would pass many days without a movement of the bowels. This distress finally drove her to consult physicians, and after consulting several doctors, who suspected an old abdominal pregnancy on account of a suggestive history, I was asked to see her with a view to operation.

Physical examination revealed a nodular tumor of stony hardness freely movable, except upward in the direction of the umbilicus. When attempting to move it in this direction it seemed to be tied down to the pelvis by a pedicle. The uterus could be made out in the position of retroversion and was not enlarged. Both ovaries could be made out through the vagina and seemed to be normal. No pelvic adhesions, in fact nothing abnormal could be made out in the pelvis, except this hard mass which could be felt through the anterior cul de sac. The physical examination, excluding the suggestive history, would have suggested a pedunculated calcareous fibroid. An abdominal section was advised and agreed to, and on the following day, with the assistance of the family physician, my surgical assistant, and a nurse, the operation was done in the patient's home, with surroundings that would have been by no means inviting to a surgeon who was accustomed to the conveniences of a modern hospital.

A four-inch incision was made through the right rectus, and on opening the abdomen, we were delighted to find a true lithopedion. A broad band of adhesion attached it to the fundus of the bladder, and anterior parietal wall, which, on examination of the specimen you will

see, this was dissected away from the lower part of the back, and it was this that fixed it to the pelvis. There was also a long band that attached it to the omentum, otherwise it was free in the abdominal cavity. A careful examination of the uterus, tubes, and ovaries revealed nothing abnormal, or any evidence of its original attachment.



LITHOPEDION.

The abdominal incision was closed in the usual way with separate lines of sutures in the peritoneum, fascia and skin.

The patient made a perfectly smooth and uninterrupted recover. Was out of bed in ten days, and soon resumed her usual work and so far as I have been able to learn has been perfectly well since.

The case is interesting, in that it gives none of the usual symptoms of pain, shock, or rupture of ectopic gestation. The long retention with so many years of comparative comfort. The complete calcification that is so rarely seen by the modern surgeon. The perfectly normal condition of the pelvic organs, and complete obliteration of evidence of original attachment.

THE RED CROSS.*

BY S. M. MILLER, M. D.,

Knockville, Tenn.

From archæological studies it is seen that the cross in its various forms has been used as an ornament, or symbol, or talisman, from the very dawn of man's civilization. Numerous specimens long antedating the Christian era, and coming from almost every part of the Orient—India, Persia, China, Egypt, Syria, may now be seen in every important museum. The interpretation of these pre-Christian forms, as of the svastika and double tau, in the Vatican at Rome, and these and others in the British museum, is not of concern in this connection.

More than three hundred years after Christ, when Constantine the Great had a vision of a cross in the sky, with the glittering superscription, "In Hoc Signo Vinces," and the discovery, at Jerusalem, by Helena, the mother of Constantine, of the true cross of Christ, together with the crosses on which the two thieves were executed, after they had lain buried three hundred and twenty-six years, the cross became the established symbol of the Christian sect, just as, later, the crescent was adopted as the insigna of the Mohammedan faith. An emphasis was given its employment, in this sense, during the crusade wars operated for the expulsion of the Saracens from the Holy Land. Every chieftain in these chivalric undertakings inscribed it on his banner, and wore it as his badge and talisman. Like the Pagan warriors of the preceding ages, whose every operation was directed and sanctified by his own particular titular deity, the crusaders made of it the arbitrament of conflict and the pledge of the righteousness of his engagement. So numerous were the orders employing this emblem, the ingenuity of artists was taxed to give them distinctive individuality. At this time, and later, ecclesiastics made of the cross such universal use as to be the measures of validity of most of the rites and ceremonies of the ritualistic functions of the church. For an idea of the lithurgical use of the sign of the

*Read before the East Tennessee Medical Association, Johnson City, Tenn., October 10, 11, 1912.

cross, you have but to glance at the service books of the Green and Latin churches, the ritual of the Lutherans and the Church of England, and many others.

In more recent times the cross, with its numerous variations in form, is employed as a Christian religious emblem, or as an ornament having some illusion to Christian practices. This is now its acknowledged acceptance, and when the cross is displayed it carries with it this expressed or implied meaning.

In Geneva, in 1864, an international congress was held, the object of which was to mitigate the necessary evils of war, to render organized aid in famines, floods, earth-quakes, cyclones, pestilence, and other public disasters. The organization was to be noncombatant, nonpartisan, and nonsectarian. It was to enjoy the immunity of neutrality by all military and naval powers in time of war, and to render it recognizable and distinguishable, selected as its emblem a white flag in the center of which was the red cross. America was not represented in this Geneva meeting, but in 1881, largely influenced by Clara Barton, an American branch was formed and assimilated. This then completed an international organization, embracing almost every power of respectable standing in the sisterhood of nations. Thus was organized the International Order of the Red Cross.

Of a few of its beneficent operations, I have but to refer you to some instances in our home country: Yellow fever in Florida, 1887; flood of Jamestown, 1889; hurricane along Atlantic Coast, 1893; Cuban war, 1898, and Galveston disaster, 1900, and on many others of lesser note.

On October 18th, 1907, the American contingent of the Red Cross Order, passed resolutions memorializing congress to enact such legislation as would prevent persons and corporations from using the red cross, and to request health departments, hospitals, physicians, and others using it, to kindly desist. On January 5th, 1905, Congress passed such a law, and since which time a number of the individual states have made it unlawful for any person, firm, or society, to use the insigna or emblem of an order of which he is not a member. Tennessee has such a law: Acts of Tennessee, 1897. Page 207. Chapter 67.

To be sure no law has an *ex post facto* function, but in this connection the question was taken up with the American Medical Association, with a view of having the red cross voluntarily abandoned as a character on the Association button, periodicals, etc. At the Atlantic City session of 1909, a committee was appointed to submit designs for a new insignia. There was no question of the propriety and right of granting the reasonable request of the Red Cross Order, but the selection of an appropriate substitute occasioned devious wanderings. It was early suggested, by some who could not get away from the cross idea, the adoption of the green cross of St. Andrew, but this was never seriously considered, it having no conceivable reason for preferment. The caduceus of the Greek god Hermes, or the Roman god Mercury, (they being the same) was offered, but settlement was finally made upon the knotted staff, or wand, of Esculapius, surrounded by radiating lines in gold and entwined with serpents, from reasons very well known to anyone at all well-informed in mythological history.

At the last meeting of the House of Delegates of the A. M. A. at Atlantic City, the committee in charge of such matters was instructed to artistically perfect this design, and have made a sufficient supply of the new buttons for the present demand. This authority was given without restrictions or limitations, except for a frank sentiment in favor of leaving to the International Red Cross the free and unquestioned use of its selected insignia.

It will be seen that the A. M. A. could have retained and used the red cross as an emblem, on account of its having been adopted prior to the passage of the law forbidding its unauthorized employment, but there was no disposition to do this, as the Association was willing to concede anything reasonable to an organization founded, equipped, and operated for the noblest humanitarian purposes.

It will also be seen that since this action on the part of the A. M. A. individual members using the red cross, do so on their own initiative, and no longer enjoy the protection of the Association. Beside, it would be expected of all members of a noble profession to accord the same generous consideration to a worthy organization,

like the Red Cross Order, as was shown by its official head.

Nothing of this applies to those of the profession who are actual members of the Red Cross Order, yet with them the same criticism might apply as would to a constable carrying a pistol when not in the execution of a legal warrant, in case the emblem was being employed when not actually engaged in Red Cross work.

Some of the abuses sought to be corrected by the reasonable insistence of the Red Cross Order, and the prohibitory enactments, cited above, are sundry commercial concerns making of it a trade-mark, or brand, for surgical dressings and hospital supplies. A liquor dealer advertising Red Cross Whiskey. Nostrum venders, in giving false character to their liver pads, corn cures, and dog soaps. A nurses' correspondence school, labeling its output Red Cross Nurses, and sending them to compete with honest, worthy women, who have had years of patient practical training, and, lastly, I almost said doctors and hospital internes displaying the red cross as a chevron on the sleeve, or as an ad. on the automobile.

The healing art is in no sense eleemosynary and the profession deserves credit for relinquishing an emblem carrying with it this suggestion. It farther entitles itself to commendation by adopting a design with a definite meaning—something that does not attempt to filch or borrow lustre from anything else whatsoever.

SYMPTOMS, DIAGNOSIS AND TREATMENT OF PELLAGRA.*

BY J. M. KING, B. S., M. D.,

*Professor of Dermatology, Vanderbilt University,
Nashville, Tenn.*

This infection, whatever it may be, gets into the system in some way and seems to strike a heavy blow upon the nervous system, and it seems that all the symptoms which we have, the skin, gastrointestinal and nervous symptoms, bear this out. What we have are atrophic disturbances. The post-mortems that have been

held have been made on old cases, and the cord and brain in most instances have been found markedly diseased. In all probability the poison, whatever it may be attacks the nervous system primarily. It is inoculated in some manner, probably it is gastrointestinal, and spends its force upon the nervous system as it does in tetany, or in anesthetic leprosy where the nerves themselves are distinctly involved in the pathology, and the lesions we have are traced, in all probability, to the nerves.

Of the symptoms, I will take up, first, the skin. We rely on the skin manifestations for diagnosis. The skin is a thing which first attracts our attention. The skin lesions are usually located on the backs of the hands, and dorsum of the feet and maybe around the neck. The skin lesions may extend down to the clavicles and up over the ears and over the face. I have seen the skin lesions practically covering the entire face. This redness may occur anywhere if the surface of the body is exposed to the actinic rays of the sun. There is something in the individual that makes the skin more vulnerable to the actinic rays. It does not necessarily come on the hands, back of the feet, and face, but that is where it usually commences, first running on the back of the hand and coming around on the inner side of the wrist. I saw a case day before yesterday with a distinct line of demarcation extending just above the wrist, with a bracelet occurring on the wrist, symmetrical in both cases. These skin lesions may be slightly red, they may go further than that, in that the skin may break and you may have weeping, and beneath that secondary infection may be grafted. Some of the lesions are so severe that large blebs will form. I have seen them in a number of cases; I have seen blisters as large as a hen's egg or a walnut half filled with water. As to the mouth, sometimes the entire buccal mucous membrane, the tongue back as far as you can see in the pharynx, and roof of the mouth, is of a bright red. The mucous membrane is dry; the whole tongue is red and looks as if it had been perfectly scalded. Some of the ulcers may take place under and about the tongue due to the secondary infection. It may be, if we do not have secondary infection, we will not have much ulceration, but only an intense redness. But the mouth of the pellagrin when seen once, can hard-

*Read before the Tennessee State Medical Association, April, 1912.

ly be mistaken. It is so characteristic. The bowel is involved along with the mouth, and, in all probability, they bear the same microscopic appearance—red, congested, and in the old cases the musculature is thinned out, due probably to a lack of nourishment and so on. But if the bowel becomes quite thin in some places there is likely to be in some places ulceration clear on through the stomach, the small intestine, the colon and rectum. The vagina in some cases has been the first organ to manifest any signs of the disease. Dr. Deering J. Roberts cited one case before the Nashville Academy of Medicine, showing that was the first symptom presented in the case. The case was treated for some gynecological disturbance. I saw this patient later on, but the disease began first in the vagina with hemorrhages. The vaginal lining presented exactly the same appearance as the mouth presents in these cases.

The expression of the pellagrin is characteristic. They sit dull and stupid as if they do not want to move; they do not want to see anything. They speak incoherently; they have a distinct hebetude. They are listless. I saw a girl, eleven years of age, a few days ago who had a very dull expression and sleepy look. She looked as though she would fall asleep at any moment in the chair. She had nothing to say. That is the characteristic expression in the secondary stage particularly. The movement of these individuals is slow.

As to the reflexes, particularly the patellar tendon reflex, at first it is excited. Later on, in the second and tertiary stages it is practically lost. A neuritis often develops in the lower extremities and forearms which is very severe. The appetite of the pellagrin is something enormous. I do not know of any disease in which patients have such an appetite as in this. They will eat anything. They will say they are hungry, but, as a matter of course, the food cannot be properly digested, nor does it at all times agree with them. A patient may be very sick, have a sore mouth, and diarrhea, yet she or he will eat anything you suggest or give. In speaking of the bowels, I overlooked the fact that persistent and uncontrollable diarrhea is a feature that should be considered. That is one thing I should have dwelt upon, but we are all familiar with the diarrhea in these cases of pel-

lagra. There is no itching to amount to anything with this erythema of the hands or face. There may be some burning associated with the neuritis. In eczema we have marked itching always of the hands; we have seldom any weeping. Some of the cases, however, develop this weeping. I do not see how eczema can be mistaken for erythema multiforme, because it is so acute and transient in its existence and course. It develops on the hands and feet and face, but is seldom so diffuse as an erythematous eruption. It usually comes in discrete papules, so that I do not see how it can be mistaken for pellagra. Lupus erythematosus can scarcely be taken for it because it is a chronic disease. It will last on the backs of the hands through the winter, and the skin manifestations in the pellagrin are seen nearly altogether during the hot season, when the sun is the hottest, but lupus erythematosus will show itself not only in the summer, but in the winter.

I do not know of any other point that I can suggest with reference to the symptoms and the diagnosis of pellagra. As I have said, the skin lesions in pellagra are seen during the hot season, while the pellagra may not have a diarrhea. The mouth may clear up, but yet he has the disease, in all probability, through the winter or cold season. These patients do not suffer so much with the diarrhea in the cold as they do in the hot season.

The diagnosis of the average case of pellagra is accompanied with but little difficulty. However, like the incipient case of tuberculosis, the incipient case of pellagra might be passed without detection. The signs and symptoms should become familiar to us all.

While the etiology has been carefully sought after for years—every tangible theory having been investigated; still we remain without positive information upon the subject, I believe that the life long work of Lombroso and that of his associates, the suggestions and investigations of Sambon supplemented by the research of our own country, will pave the way to the discovery of the cause of this disease. Cholera, bubonic plague, yellow fever, syphilis, and other diseases have lost their formidable bearing since the solution of their etiology, and I can think of no more philanthropic purpose to which any one may devote his means than to appropriate a sum

which will enable the most exhaustive researches with reference to the cause of pellagra. Millions more will have to be expended because, like cancer, it evades and escapes the ordinary methods and procedures of investigation. Let some one supply the means, the workers are competent and ready.

At the present stage of our knowledge of this entire question the most interesting feature, from the practical standpoint, is the treatment and handling of the disease—the prevention and treatment.

Prevention.—With reference to prevention of pellagra, not knowing the cause or means of transmission, one is at sea to know what to exclude or what to allow. Yet, while the investigative mind is still open, it is the opinion of many workers and investigators that the disease is, in all probability, due to a micro-organism, bacterial or protozoon, but not contagious, and that the infection or cause may take place through some article of food or that the inoculation may follow the bite of a bed-bug, flea, or fly and produce in the patient a substance which renders the skin more vulnerable to the action of sunlight.

As is well known and upon good evidence, corn, with its products, has been singled out as the one article of food to be taken with great care. Meal and the corn products should be made from mature sound corn. However, this should be the case from a general consideration. But the statement can be made without contradiction that much of the meal used in this country for several years past, particularly in the South, has been ground from an inferior grade of corn, that was not ripe when harvested and had been allowed to mold. Corn from the mill-hopper of one of the Nashville mills, upon one examination, was found to consist of 25 per cent rotten and inferior grains. It is true that Italy has improved her condition with reference to pellagra by supervising and improving the corn and bread supply of the people. Imported corn is inspected, the native corn ripened and dried, and more wheat bread is eaten. Through education by farmers' institutes, public lectures, pamphlets, placards, and sanitarium the people have also been aroused to a better way of living generally. Instead of faring on polenta

alone they now have a variety of food and better sanitation.

Whether these good results in Italy, the decrease of pellagra, come from the change made in corn and breadstuffs alone or from the greatly improved hygienic conditions is a matter of speculation. However, we should profit by this experience and all of the corn made into meal or foodstuffs in this country should be ripe and sound. If inspection is necessary to establish this condition let us have it, for corn bread is the staff of life in the South.

Again spoiled corn may produce in certain members of the human race a photodynamic substance, *fagopyrismus*, just as buckwheat produces it in white mice, rabbits and guinea pigs. These animals, after being fed in this way, when exposed to diffused or direct sunlight, will present an erythematous eruption recurrent from time to time when exposed, even after the feeding of buckwheat is omitted. The erythema may be very severe associated with disturbed respiration and general symptoms referable to the general nervous system.

The production and existence of the photodynamic substances in these animals with the concomitant symptoms might be similar to the conditions existing in cases of pellagra and may be brought about by spoiled corn. To say the least corn should be thoroughly inspected.

A full dietary and a variety of food should be insisted upon as a preventive measure.

If insects are to be held responsible for the transmission of the disease, extermination would be the only practice.

I cannot fully agree with the long standing proposition that pellagrins should not be isolated or segregated. In one orphanage in Nashville of seventy-five children, boys and girls, seventeen cases of pellagra developed during a period of three years, starting as it seemed from one case. As soon as a diagnosis was made the authorities, upon my advice, placed the pellagrins in a separate building two blocks from the main building. No cases have developed in the orphanage since that time. These cases have been reported and discussed, their food, etc., and casting aside all theories there seems to be a possibility of transmission of the disease at this place not so clearly manifested elsewhere. Other instances may be cited where more than one in the

same family have developed the disease. Pellagrins, in my opinion, should have separate rooms or separate beds.

Treatment.—It would not be too strong a statement to make that the entire materia medica has been considered in the treatment of this disease and that a great part of it has been tried with but little satisfaction. The profession today is in about the same attitude with reference to pellagra that our forefathers were in when they began to treat syphilis. Mercury in the early years was finally stumbled upon and found to be a specific, but it was not until 1842, centuries after the disease was known, that Wallace of Dublin found potassium iodide—then Elrich, salvarsan 1908. But little progress has been made in the treatment of pellagra.

There has been nothing developed from the treatment to indicate the cause of the disease. All of the specifics have been tried but none seem to fit the case. The direct treatment is purely symptomatic, but great benefit may be done in a certain class of patients in this way.

Arsenic, in its different forms, has been placed at the head of the list of drugs, due, in all probability, to results obtained with it by Lombroso. Briefly, at this place, I wish to discuss the action of this drug with reference to this disease. To get more directly to the point I wish to state that I do not believe that it has any specific action upon the cause of the disease. The results of the treatment do not warrant our belief that it acts in a specific way. Mercury cures syphilis. Quinine relieves malaria. But arsenic is used in both diseases for its strong tonic effect upon the nervous and the blood making tissue. Salvarsan, atoxyl and soamin given in large doses do not give the results of a drug acting in the way of a specific. I am led to believe that arsenic acts in this disease only as a tonic, and that it has proven so far to be the most reliable tonic on account of its selective action upon the nerve tissue, the very tissue primarily and most seriously involved in pellagra. Arsenic should be pushed for its tonic effect alone without any view of specific action, and in this effort it should be assisted by the other tonic agents, and every means at our command.

Returning now to the outline of treatment it should be stated that the stage of the disease will govern many of the **details of treatment.**

and it should be remembered that we have a patient to care for as well as a disease to combat. In the early stages, during the first or second year, before marked pathological changes have taken place in the cord and brain I believe much good can be done by careful treatment, but after extensive lesions have developed there is very little to accomplish. A more active tonic treatment can be instituted at once in the early cases, while in the secondary and tertiary stages only mild treatment can be administered.

Given a child of from twelve to sixteen years of age showing only the mild skin markings the most active treatment may be given at once.

The diet should be full—wheat bread, meat, eggs, milk, butter, vegetables, but no corn products. A bath and salt rub three times a week. Patient should be kept from the strong sunlight. Medicinal treatment should consist of arsenic, iron, quinine and strychnine in tonic doses internally. Sodium chloride should be given in ten or fifteen grain doses twice a day. This line of treatment has been satisfactorily tested on the seventeen orphanage children in Nashville. All that were in the primary stage recovered, one in the tertiary stage died. An adult in the primary stage would, in all probability, recover from the same line of treatment as I have seen in four cases.

But if the case is in or about the secondary stage the outlook is more uncertain, and the treatment more difficult. First the diet cannot be full, but should be liquid or semi-solid and all the patient can digest and assimilate. The diarrhoea should not be increased by the food. Rectal feeding will be resorted to in but few cases—in persistent vomiting. Predigested and prepared foods may be used as indicated. Dilute hydrochloric acid in essence of pepsin is of value in some cases.

For the stomatitis and ulceration attending use hydrogen peroxide as a wash three times a day followed with diluted liquor antisepticus or listerine. Once a day after the washing a solution of silver nitrate should be painted over the entire surface of mucous membrane as far back as the pharynx. Silver nitrate gr. 20, glycerine and water each a half ounce.

The diarrhoea as a rule is difficult to handle with the severe catarrhal inflammation of the **entire mucous membrane** backed up by such low

tone of nerve stimulation. The mixture which I have used as first choice and with which I have had the best results is one of listerine, milk of bismuth and elixir lactopeptine given in large doses every two or four hours. The organic astringents—like tannigen, protan, subgallate of bismuth—may be used. Opium should be used only as a last resort.

The skin lesions should be washed once or twice a week with soap and water. If there is pus infection a solution of bichloride of mercury—1 to 3,000—should be sponged on. The parts should be kept wrapped in a bland ointment constantly—one of boric acid grains six, zinc oxide drachm one, lanolin and vaseline equal parts to make an ounce. No stimulating salve should be used. Ichthyol aggravates the skin lesions.

The patient should have a warm bath followed by a salt rub every other day if it is possible.

Twenty to thirty grains of sodium chloride should be given daily in the food or separate.

The patient should sleep alone, the room should be well ventilated and screened, and the bed free from bugs.

Gastric lavage and colonic irrigation may be of service when indicated.

What line of tonic treatment shall we follow? What form of medication shall we administer? A patient with a sore mouth associated with a gastro-enteritis and a persistent diarrhoea has a poor chance to take up much help from the intestinal tract. At this stage irritating preparations cannot be given and I have used the solution of the peptonate of iron with arsenic until the stomatitis and diarrhoea have been checked, then have begun iron, quinine and strychnine with Fowler's solution. In addition to this I would give soamin or sodium cacodylate hypodermically every other day for a week or ten days—and then twice a week for a prolonged time. If the patient responds, the diet should be increased accordingly. The appetite of the average pellagrin is gigantic.

Should a neuritis of the lower extremities develop the patient should be given heavy massage of the spine, with manipulation of the limbs, and if that fails aspirin, phenacitine, etc., should be given. Local applications have been useless in my hands.

The period of convalescence and the interim

should be utilized to the best advantage for the patient—in building up the constitution. Strong sunlight should be avoided for two or three seasons and tonics should be taken from time to time.

As to the treatment of cases in the third stage, with mental symptoms, very little can be done. Few indeed will recover even with the greatest care. They are like the hopeless consumptive. They should receive the same care and attention as other patients; they should be made comfortable and every effort should be exerted to restore them. But when we consider the pathology of the cord and brain in these cases we feel absolutely helpless.

Transfusion has been done in some cases with apparent benefit. However, I am inclined to believe that the good coming from transfusion is that of the tonic effect of a new blood. Pellagra does not seem to be a self-limited disease, but seems to be one that grows progressively worse if allowed to wield its force unchecked by treatment, and I doubt the formation of an antibody or antitoxine.

The last word has not been spoken upon this subject. Much laboratory work and chemical observation must yet be made. We have only formulated briefly what we believe to be the most rational practice with our present understanding of this disease. Let us hope that all will be done by the profession and by the public to cope with the situation in the most intelligent manner and that some one in the nearest future will solve the question.

Eve Building.

DISCUSSION.

ON THE PAPER OF DR. KING.

DR. H. E. CHRISTENBERY, Knoxville: I have seen quite a few cases of pellagra—thirty-one in number. I have had other physicians to see the cases, and in all of them, so far as I know, those seen by men who know what pellagra is, the diagnosis was confirmed. When Dr. Brooks was appointed by the State Board of Health to make a study and report on the cases of pellagra in East Tennessee, I showed him eight cases in one day, and he said he was sure these patients had pellagra. Some of them were under one method of treatment and some under another. I have given

about as many different kinds of treatment as I have had patients. Some of them have died, and some of them are apparently well. I have never seen a case of pellagra that had so far progressed but what it had every symptom that could be mentioned. They will give you all kinds of symptoms, and they usually have enough of them to interest us a great deal. The first symptom I noticed in these cases was gastrointestinal disturbance. I have noticed the gastrointestinal disturbances in cases of pellagra long before I found any skin lesions on the hands, the forehead, or on either side of the neck. I have seen patients who did not have the skin eruption or rash, whatever you call it, but feel sure they had pellagra. I put them on some form of arsenic and calcium sulphide, and they rapidly improved. I had one patient with this skin disease where the lesions extended up and down the spinal column. This patient had been taking arsenic, iron, quinine, and strychnine. I put this patient on calcium sulphide, and every other day I gave her hypodermically three grains of sodium cacodylate. She stood it well. She was confined to her bed most of the time, and after about six weeks she was able to get up and go about, and in about ten weeks she began to do her housework. All the symptoms practically disappeared except some symptoms of the optic nerve. She has some disturbance of the eye sight. Now she is practically well, or appears to be, and she is still taking the calcium sulphide. If there is anything like a specific for pellagra, I think calcium sulphide comes the nearest to it of anything we have for treating this disease. I do not rely on that altogether, because I do believe that sodium cacodylate does good. I have given these patients from twenty to forty injections of the sodium cacodylate, and then I have stopped. I usually then, after I stop that, keep them on iron, quinine, strychnine, and arsenic, and the calcium sulphide. Very often we see these cases that have been treated for various diseases. I saw a case the day before I came here that had been treated for two years. The man had just come in from the country. I asked him what he had been treated for, and he said a general rundown condition. Just as soon as I saw his tongue I recognized what he had, because, as Dr. King has just said, you can easily diagnose pellagra by the character of the tongue after you have seen a few cases. You can always tell what the trouble is because the appearance is typical. The appearance was as though the patient had taken a mouthful of red-hot coffee or something that had inflamed the mucous membrane. If this condition is allowed to continue, we have ulceration. I do not know what causes the ulcerations, unless it is due to lack of treatment. I have never seen ulceration where they were properly treated; but I have seen it in a number of cases where the diagnoses were uncertain and the patient had been treated for various diseases. Especially just under the tongue we find the ulcers, and we have all kinds of symptoms described by the patient which should have caused them.

I have used different agents for mouth washes, and

some of them seem to relieve the irritated condition of the mucous membrane in one patient, in others it will not. I have had good results from tincture of myrrh as a mouth wash.

A MEMBER: How much calcium sulphide do you give?

DR. CHRISTENBERY: I give one grain three times a day after meal time, usually, but have given one grain every two hours in some cases, and its use is attended with good results. Some of these patients get scared. Somebody goes around and tells them that they have cured a number of such cases, some one who does not claim to be a physician, but that person will say he has hit upon some remedy with which he has cured a number of cases of pellagra; they are given a trial and so on until these patients go to various physicians and quacks and finally lose their minds. Some of the cases are apparently well. I do not tell them they are cured, because I do not believe they are cured, but I hope they are and will live without the symptoms showing up any more.

I have seen a number of cases of pellagra in children, but I have not seen a child die of the disease. Most of the children are easily relieved—that is, the symptoms are—but in adults, in some cases, the symptoms are extremely hard to overcome.

In some cases I find a change of locality to seem to do a great deal of good.

DR. WILLIAM LITTERER, Nashville: Concerning the pathology of pellagra, I wish to say that I have made autopsies on four cases, and I wish to speak with special reference to the nervous system. I find there is a great difference in these cases in the pathology. In some cases you have lateral sclerosis; in others you have posterior sclerosis of the posterior roots of the spinal cord, then into the brain. There will be almost always a chromophilic fragmentation of the cells of Purkinje. These are cases that have died from the ordinary causes of pellagra. I found in three of the cases obliteration of the central canal. There is nothing that is absolutely characteristic. It appears to be some kind of intoxication, and whether that intoxication is of bacterial or gastric origin we do not know. Of the four cases that came to autopsy, the intestines in three were infected with hookworms. Hookworms were found in the intestinal canal, and in one case the ameba coli histolytica. There was a distinct thinning of the walls and just in patches in the stomach as well as throughout the intestinal tract. I have made many examinations for the Wassermann test and have found it negative in every instance, so that I do not think we ought to confound this with any syphilitic condition. I have found other cases in which the Wassermann was present, but those cases gave some history of syphilis or in whom the disease was hereditary in some way.

DR. E. A. LONG, Johnston City: I would like to ask how early in the train of symptoms in pellagra should the disease be diagnosed?

In the community in which I have practiced for twenty-one years, in the past two or three years we have been having a condition that is different from what we had seen prior to that time. We have had the symptoms that Dr. King has described, the symptoms of pellagra, such as the symptoms of the mouth, the stomach, the bowels, but with no eruption on the skin. Other cases have had this eruption. The first class of cases mentioned have run along sometimes for one or two years with now and then an improvement and again a relapse. I have not been sure of my diagnosis in all these cases. I shall be glad to receive further instruction along this line.

DR. WILLIAM KRAUSS, Memphis: I want to say a few words in the discussion of the symptomatology and treatment of pellagra. I take it that the answer to the question asked by Dr. Long belongs properly to Dr. King, because he has dealt with that part of the symposium.

In discussing Dr. King's part of the symposium I desire to say, in the first place, that the skin manifestations run through a rather definite course, very frequently in the course of a few weeks, and they often disappear to reappear later, which, of course, would differentiate them from certain other conditions. Another point of differentiation is that the lesion is practically absolutely symmetrical, modified only by the incidental protection from actinic rays on one side of the body where it cannot be covered on the other side of the body. The lesion is almost invariably a flat one, neither elevated nor depressed, and the most extensive deep exfoliations with ulceration are caused by the treatment rather than by the disease. I want to warn particularly against meddling interference in handling a lesion of degeneration like that with the application of bichloride and carbolic acid, and a number of things of that kind; things that would not be irritating to the conjunctiva will play the dickens with the dermatitis of a pellagrin. I want to bring that point out.

In regard to the gastrointestinal symptoms, I have observed cases where the appetite was phenomenal, and yet that patient at some other time would probably have a complete anorexia. You cannot make them drink water or take anything, and while a patient may have a voracious appetite as a symptom, other patients may have the opposite. The same is true of diarrhea. I have seen some aggravated cases with an obstinate constipation. Nothing seemingly would move the bowels. So we are dealing with a condition involving branches of the distribution of the vagus which may be so degenerated as to result in complete achylia gastrica and aperistalsis.

I have posted one case where the intestinal tract contained a gallon of contents. The fluid could have been easily removed, but there was complete muscular paralysis and no way to expel it. Such a patient would not have a diarrhea, so that with respect to the diagnosis we must remember to eliminate the opposite con-

dition. The diarrhea is not necessarily a characteristic condition of the intestinal tract, nor is voracious appetite a characteristic condition, and I would call your attention to the fact that you can make these patients worse by meddling treatment.

I do not think there is any specific for the disease, even so far as arsenicals are concerned. Dr. Martin, of Hot Springs, Ark., has used the arsenicals, beginning with soamin, and winding up with salvarsan, and claims to have cured a number of cases of pellagra. He has admitted that we should not give salvarsan in large doses, but rather in small and repeated doses. He recommended soamin up to about one hundred doses. This corresponds in point of time to the limit of an average exacerbation of the disease, about the time period in which we would expect improvement in favorable cases even without arsenic. I do not think there is very much in arsenical treatment from the standpoint of its being a specific for pellagra.

DR. KING (*closing*): I agree with Dr. Krauss in regard to the use of arsenic. I do not regard arsenic as a specific; we get only a tonic effect from its use, and it seems to have been the best tonic we can use for this purpose. We rely upon arsenic in our blood dyscrasias, in cases of lowered vitality, used in conjunction with the other tonics. I would not exclude the other tonics and depend upon arsenic alone.

The point of the patient having diarrhea before the eruption on the skin was referred to by Dr. Christenberry. In a case I saw day before yesterday there was no diarrhea, yet there was a marked dermatitis, with a marked stomatitis. The child even had the hebétude of the pellagrin, but no diarrhea.

As to the skin manifestations coming out first, I have seen, and Dr. Witherspoon also, the case of a young woman in the hospital in Nashville who was near onto death without any skin manifestations. It was not until two or three weeks before she died that she had any skin manifestations, and she had had pellagra for two or three years.

With reference to the disease in children, I have seen twenty-two children with pellagra, and three out of this number have died.

As to the earliest time for diagnosis, it occurs to me that if a patient presents or gives a history of a sore mouth, which is rather persistent, whether there are any skin manifestations or not, and if this sore mouth is of the pellagroid type, I would regard it with strong suspicion as the beginning of pellagra. However, there is no one sign we can go by for an early diagnosis. The whole case must be considered. The skin manifestations in the cases we have had in this country were associated with the mouth lesions. We have had to rely largely upon skin manifestations in these cases. This patient above referred to was under the care of several physicians, and we saw the case in consultation. The patient had been sick for two or three years, still no diagnosis had been made of pellagra, for the reason that there were no skin lesions.

CONSERVATIVE SURGERY OF THE UTERINE ADNEXA.*

BY J. B. HASKINS, M. D.,

Chattanooga.

Conservatism in surgery is ideal; and to my mind conservative surgery of the uterine adnexa is one of the most important surgical subjects with which we have to deal. The differences in degrees of its accomplishment are only due to differences in conception of its meaning. By conservative surgery we mean not only conservation of tissue and of tissue structure as it pertains to an organ and its neighbors, but conservation of organic function as well. Forgetting this, we become mere mechanics—not surgeons, and fall far short of the best good for the patient.

From 75 per cent to 90 per cent of all laparotomies (varying according to different authors) are performed upon the female. And 80 per cent to 90 per cent of the laparotomies performed upon the female are done for pelvic pathology. 85 per cent to 95 per cent of pelvic pathology involves either tubal or ovarian tissue and a large per cent involves both tubal and ovarian tissue.

Many are the women, all over our country, who would give any earthly possession to be called mother after having been under some surgeon's knife who didn't realize the importance of saving all of the tubal and ovarian tissue possible. Many are the poor neurotics who have sacrificed their ovaries or tubes or both ovaries and tubes by being chronic grunTERS and putting their confidence in some near surgeon or in some one over enthusiastic to do surgery. For the past few years it has been quite a fad among near surgeons and among surgeons who look after the commercial side more than after the scientific to operate on neurotics and in fact upon any woman that would hold still performing intra-abdominal stunts from puncturing ovarian cysts the size of a pea to pan-hysterectomies. I have seen one supra-vaginal hysterectomy together with tubes and ovaries, when all were

absolutely normal, removed from a neurotic society lady. She and husband having been made believe the operation would cure her intense nervousness. Instead of the operation relieving her, if possible it aggravated her neurosis, making of her a neurotic invalid.

Surgery is the most beneficent part of medicine when done by conscientious competent men, but surgery akin to the above is a great stigma to surgery and will keep many who really need the great beneficence of surgery from undergoing the ordeal because Mrs. A. B., etc., was not benefited and in many instances made worse by the operation.

Having seen a few women who were real anxious to be mothers on whom I have good reason to believe conservative surgery had not been meted out to them, and a number of neurotics who were made more profound neurotics by having been operated upon, is why I have attempted to write upon this subject, though I realize my inability to write anything akin to an exhaustive paper on the subject, I attempted it hoping that it would elicit a hearty enthusiastic discussion, thereby placing conservative surgery of the uterine adnexa on a firmer basis.

I do not believe that a surgeon is ever justifiable in castrating any woman unless it be for the following reasons:

1. If the woman is a wage earner who has to make her living and to support herself or family, we should deal with such a case in a different manner from that in a woman who belongs to the richer class.
2. Malignancy which occasionally occurs during the child bearing period should be dealt with radically.
3. Tuberculosis of tubes should be treated by total extirpation.
4. From the standpoint of eugenics after a very judicious consideration.

In the upper class save all the tubal tissue you can, for it is a well-known fact that resected tubes have and do functionate. It is well known that many women have borne children whose tubes had been resected to all degrees from the fimbria down to a little stump of a tube that was not over a thirty-second of an inch long. Dr. Frederick, of Buffalo, says there are cases on record of pregnancy having occurred when the tube had been cut off at the cornu and tied, and

*Read by title before the Tennessee State Medical Association, April, 1912

while it was not expected that these women would become pregnant, they did. Cases of pregnancy have been recorded where the woman had only one tube and ovary situated on opposite sides of the pelvis, the ovum having passed across the pelvis and found its way into the tube.

"The Ovary."

The physiologists of today have begun to question the formerly accepted opinion that the female reproductive organs are of use to the human economy only in so far as they contribute to the perpetuation of the species and that their removal involves nothing more serious than sterility to the individual deprived of them. Our present day studies are tending toward a wider view of the significance of organs which mark the fundamental distinction between sexes whose mental and physical characteristics diverge so radically.

The probability is strong that there is an internal secretion as yet unclassified, which has a high relative importance in general metabolism, as significant as the role now attributed to the secretion of the so-called vascular or ductless glands.

We do know that a number of women who have a double ovariectomy performed upon them thereby sacrifice more or less of their femininity by becoming, as a rule, corpulent, growing a short stubby beard, and the voice becoming more or less masculine. Then in the light of our present day surgery it should be the steadfast aim of our science to promote prophylaxis, to popularize preventive measures, to preserve organs, and to restore function.

Montgomery says, "If possible (unless in mature women) a portion of both tubal and ovarian tissue should be saved." He further says that the deprivation of the possibility of procreation is by far too serious a matter in young women to justify the needless sacrifice of either ovarian or tubal tissue.

In many cases, even when associated with large ovarian tumors a portion of the ovary capable of performing all the functions of that organ can, and should be saved, if for any rea-

son the entire ovarian tissue of the other ovary be pathological.

A large proportion of ovarian tumors are of a malignant character. The varying percentages ranging from 8 per cent to 27 per cent. Diagnosis of malignancy in ovarian tumors cannot be made with certainty. It is recognized that safety in these cases lies in the earliest possible extirpation. And I believe that it is good surgery for the extirpation to include the affected ovary unless the other ovary has been sacrificed or is completely pathological. In such case resection would be advisable.

Beyond what may be called emergency measures, then, for the saving of life, in malignant disease, acute septic or inflammatory involvement, hemorrhage from ruptured extra-uterine pregnancy, and the like, and the removal of various neoplasms, the province of operative gynecology on uterine adnexa should be to recognize what structures can be preserved and how they may best be restored to their functional activity and made to conserve such vital energies as may depend on such function.

The indications for major and plastic surgery on the uterine adnexa are obvious. Given the present state of our therapeutic knowledge, the removal of organs from the human body is a confession of our limitations. We remove them because up to the present, we know of no other way either to prevent or correct the pathologic conditions which face us, but we are in duty bound to relegate such radical procedures to the domain of emergency surgery which justifies itself only in extremity. As for plastic gynecic surgery on uterine adnexa, there are practically no limitations according to the status of our present day surgery.

In the choice of methods one is not limited to original devising. Many operators have an extended program already mapped out before them, but he will do the best work, nevertheless, who can select intelligently and adapt skillfully, the operation to the patient and not the patient to the operation, remembering at the same time that it is his duty—under most circumstance—to conserve tissue and restore function.

ICONOCLASM.*

IN SURGERY AND IN THERAPEUTICS, IS NECESSARY
FOR SCIENTIFIC ADVANCEMENT OF OUR
PROFESSION.

BY E. DUNBAR NEWELL, M. D.,

Chattanooga.

Doctors, like other men in other callings or professions, are prone to follow more or less blindly the teachings and practices of those few of the profession, who, by reason of their position, their writings, or their unusual skill or ability have become widely known. For the student, the young practitioner, and the doctor of limited experience, this is, as it should be, and is, eminently correct; for doctors of more training and experience, and even those of the highest attainments of the profession, it is a wise policy to adhere to, but in doing so he should ever be alert to find errors and fallacies in their teachings and practices, he should ever be watchful and keenly observant to find out for himself by his very own unbiased, open eyed opinion, and clear unprejudiced deductions on a large series of cases, from histories that have been accurately and honestly recorded, the effect of his drugs; the course of disease with and without drugs; the effect of liquid or solid food, or no food; the effect of antiseptic or aseptic dressing of his wounds; and by all those other complex problems that we are daily and hourly called upon to solve and to explain. To those who are not close students, and who never can be, and those who are careless and indifferent observers, and those who are iron bound and nickel coated in their convictions and blind prejudices, and who are not capable of making honest interpretations, to them the teachings of the masters should ever be what the Koran is to the Mohammedan. The real student, the honest observer, the iconoclast of medical axioms and teachings, is not always found in the wealthy laboratories, and in the faculties of the great medical centers, but every

village however humble, may harbor an Ephraim McDowell, a Nicholas Senn, a Mayo, a Jno. B. Murphy, or a Marion Sims.

The thought in this paper has not come to me at the suggestion of an idle vanity to write a paper for this society, but it has been forced deeply into my every thought, and made deep convictions by innumerable concrete examples of the gross errors in the teachings of those who are, and who should be considered as authorities. If by this paper I can convince some of the members of this Association of the urgent necessity for us at all times to be our own observers, to question all teachings until you have proved it to your own satisfaction, this paper will have well served its purpose.

I can best and most forcibly explain the necessity for iconoclasm in our profession by a few concrete examples. (About a year ago I read a paper before the Chattanooga and Hamilton County Medical Society, in which I made the following statement:) In treating puerperal infection, after abortion or full term labor, one of those radical changes has come over the profession during the last few years, a change that is significant of our foolish way, how blindly we follow the supposed masters and do not read with wide open eyes what we should see. Twelve years ago, fresh from the teachings of Tulane, I was enthusiastic about curetting the uterus for puerperal infection, and the curetted ones died. I noticed that dirty, filthy negro women who kept all of the soiled clothing and bedding under them, who had foul smelling discharges and fever, got well if they were not curetted, and not given intra-uterine douches. I quit curetting and quit giving intra-uterine douches, not because of any leucocyte wall, as I knew nothing of such a wall then, but because I opened my eyes and saw.

In treating pneumonia, I had a similar experience; my first fifteen cases, treated according to the teachings of Tulane, at that time, and of the great Charity Hospital in New Orleans, I had a mortality of thirty-three and one-third per cent. This treatment was vigorous medication with digitalis as a most important drug. Here, again, I noticed that negroes without medical attention, and who had pneumonia, had a better chance for their lives than the ones that I attended. I again took notice, and my next thirty

*Read before the Tennessee State Medical Association, April, 1912.

cases, I had only one death. I quit vigorous medication, and especially the digitalis.

Another valuable lesson I also learned while working in this fine clinical field was this: Because a woman has some retro-displacement of her uterus is no reason per se why she should have a ventro-fixation, ventro-suspension, or a Gilliam or an Alexander. I found while making routine vaginal examinations on those robust negro women that fully one-third had some retro-displacement, and that they were not aware of this displacement, that it gave them no pain or inconvenience, and they would probably never have known of its existence unless it was suggested to them by some medical man. I do not mean to say that an operation to hold the uterus in place is never necessary, because I am doing these various operations all the time myself. But I do contend, despite the almost universal teachings of today, that because there is retro-displacement of the uterus, is no reason that the uterus has to be held in place by a mechanical apparatus, or by some operative measure. When the displaced uterus is giving symptoms that can be directly traced to the displacement and not to the power of suggestion from the doctor anxious to earn a fee for local treatment, or from the surgeon anxious for an operative fee, then, it is time for operation, and not until then. The same may be said of floating kidneys. Unless the displaced kidney is giving some real trouble, and not the result of a general ptosis of the abdominal viscera from loss of fat and general ill health, there is no necessity whatever to anchor it in place.

The most radical change in the treatment of fresh wounds come to us from the Italians, and it emphasizes most markedly how badly we can be mistaken in our ideas and our practices. To many of you it will be surprising to know that fresh wounds, lacerations and contusions do not have to be cleansed with aseptic or antiseptic solutions, or cleansed at all to get healing by first intention, and without pus. I have not washed or cleansed in any way—except to wipe out the grit and trash with a sterile gauze—any lacerated or contused wound for the past six months, and I have gotten just the same results as I did when every wound was carefully and thoroughly cleansed with aseptic and antiseptic solutions. I simply paint the wound and sur-

rounding skin with undiluted tincture of iodine. In a recent case of fracture of the nose, the bone was broken into three pieces, the skin badly lacerated, and the mucous membrane torn through, which left a wide opening from the outside into the nasal cavity. I had to bring the fragments of bone together and suture them, and then suture the skin without a drain. In this case I used nothing but tincture of iodine and got healing by first intention and without pus. This, too, is the safest way to treat compound comminuted fractures, but in those cases it is best not to do any operative work for several days, just wipe out the wound with sterile gauze remove fragments of bone and tissue that will probably slough, apply iodine freely, put on the dressings, immobilize the limb and wait from seven to ten days for nature to raise the opsonic index, then unite the fracture and close the wound. The finger of the operator or assistant should not come in contact with the wound, but all handling should be done with instruments. It has been found that these cases do far better under this method of treatment than when the usual method of scrubbing the wound with soap, aseptic and antiseptic solutions.

Another great fallacy that many surgeons indulge in, and I grant to them the same honesty of purpose that I hold for myself, is the performing of such operations as removal of ovaries, the operations for retro-displacements, the fixation of floating kidneys, etc., in the vain hope that the neurotic condition is caused by reflex disturbances from the supposedly offending organ. These cases are peculiarly susceptible to suggestions from the examining surgeon, and it is very easy to center their attention on an ovary, the uterus, an appendix, or a kidney, and they are always ready and anxious for an operation, and they are, usually, relieved temporarily, but after a few months the neurasthenic symptoms return with greater intensity. These cases, unless there is some very positive indication, are not surgical and it is almost criminal to treat them as such. The making of a correct diagnosis in these cases is most urgent, and important, and will be to the surgeon's lasting condemnation if he errs either way. A recent case of my own will illustrate this:

Miss C. A., age twenty-six, unmarried, has always menstruated regularly, has always been

healthy and has never had a serious spell of sickness, has always been quiet, reserved and dignified, but not moody, has always slept well and lived well. Last summer, one year ago, would occasionally have to sit up in bed complaining of pain in thyroid, like the toothache. For one year had been forgetful, but for the last few months it has gotten much worse. Was an expert stenographer and accountant, and held responsible positions here in Chattanooga. But for the last two months the work has been a drag and she would go home wearied and reluctant to return to her work next day. For the past few days she has been so forgetful that she had to quit her work, and she has been so morose and melancholy and talked so strangely that her sister was afraid to leave her at all. On November 6th, she came to me suffering with melancholia and almost acute dementia. She had to have a special nurse to guard her night and day, and even then we had to keep the door barred to prevent her injuring herself, as she would occasionally break the dishes that were brought to her room and refuse at times practically all medication. On examination, I found temperature normal, pulse normal, when she was quiet, no exophthalmos whatever, but the right lobe of the thyroid gland somewhat enlarged, but only slightly so. She was also suffering from protruding ulcerated hemorrhoids. On the 9th of November, I operated for the hemorrhoids, but without getting any improvement of her condition following the operation. On the 19th of November, I decided to ligate the superior-thyroid artery and veins on both sides. This was done and the next day patient showed marked improvement and continued to improve daily until she left the sanitarium perfectly well two weeks afterwards. I have heard from her just recently and her sister tells me that she is perfectly normal in every particular, has no indication of moodiness or melancholic spells, and that she is as bright and as intelligent as she ever was. This case had no symptoms of hyperthyroidism, except the mental unrest, and she could very easily have been classed under the head of *neuresthenia*, or *hysteria*.

Dr. John B. Murphy, of Chicago, has always been an iconoclastic worker in the surgical field and his work on ankylosed joints created the greatest interest of any other subject that was

brought before the A. M. A. meeting at Atlantic City. To any one who has opened up to view an old ankylosed joint and seen the firm bony union there, he will not be surprised that no good, and great injury only could result from breaking up this union under a general anaesthetic.

I operated with Dr. J. W. Horton at our sanitarium on March 25th on a case of this kind that well represents the great indebtedness that humanity owes to Dr. Murphy. As this is an entirely new field, and the only case of its kind—I presume—operated on in this section, I will give the history of this case in detail. Kate M—colored—age 18, was brought to our sanitarium by Dr. Horton on March 22nd with following history. Was perfectly well up to April, 1910, when she was taken with pain in left knee, not swollen much, was in bed eleven weeks, and when she got up it was flexed to an angle of thirty or thirty-five degrees, and she has never been able to move it since. When she stood erect the tips of toes of left foot could touch floor. Joint absolutely immovable and patella completely fixed. On March 25th we operated and did the typical operation of chiseling patella from femur, sawing obliquely through patella, reflecting back the divided patella and then chiseling through the bony union between femur and tibia, sawing off the end of tibia, leaving an inter-condyloid ridge and then covering raw surfaces of bone with two thick flaps of fascio capsule, ligaments and fat taken from the side of joint, the anterior half of patella was rotated on itself 180 degrees and wired under the one-half of patella that was attached to the quadriceps tendon; just as is described by Dr. Murphy for his arthroplastic operation for bony ankylosis of knee-joint, and as is so beautifully shown in the Kelly Stereo-Clinic describing this operation. Patient left sanitarium June 1st, and would have left sooner except that we had necrosis of skin flap from lack of sufficient blood supply, and this necessitated skin grafting. Patient can stand with both feet on floor, and has from ten to twenty per cent motion in joint. The necrosis of the skin flap prevented early and persistent movement of the joint is the reason we did not have a perfect result in this case. It is an ingenious operation and is, I believe, destined to give great relief in all cases of ankylosis of knee-joint where there is much deformity.

To the internist, there is even a greater field for iconoclasm than there is for the surgeon, because there are so few drugs that are really necessary or beneficial, and that are really not harmful. I have been very much impressed lately with some of our serious operative cases in whom we have used practically no medication of any kind and find that they really do as well if not better, than those who have been given various tonics, blood builders, stimulants, etc. The profession is prone to give digitalis as soon as the heart murmur has been discovered, whereas if there is compensation no medication of any kind is required, and if there is no compensation, then even digitalis should not be used until rest in bed has failed to produce compensation. The giving of various powders to heal an ulcer of the stomach or intestines, as Dr. Chas. Mayo very sarcastically says: "does less good than dusting powder down your neck expecting to cure an ulcer of the leg."

Another popular fallacy is the giving of pepsin, either alone or in its various combinations as sold, for indigestion, when in reality it has practically no benefit in the great majority of all cases.

In giving liquid food to patients, we again delude ourselves when we feed beef juice, beef tea, and the various liquid proprietary foods on the market, as very few contain five per cent protein, and most of them not more than two and three per cent, and practically nothing else of any food value. Therefore, they would have to be used in impossibly large quantities if they alone were expected to supply the food necessary. In speaking of the liquid proprietary foods, Edsall, Professor of Medicine in the University of Pennsylvania, makes the following statement: "Recent precise investigations of their actual food value have shown that the liquid proprietary foods have at most, ordinarily a value of about equal to milk, and when it is considered that the daily amount of them that can be employed is rarely as much as three or four ounces, it becomes clear they can furnish at best only a small fraction of the quantity demanded by any patient. It should especially be remembered that the 'so-called beef or meat teas,' or 'extracts' that are on the market, are almost wholly valueless as foods." There are many such examples that I could give, but in this paper I was anxious

to throw out a few hints and not to go too much into detail.

In closing I will quote from a paper that I prepared as chairman of the section on surgery for the Louisiana State Medical Society:

It is well to be an iconoclast in surgery, do not adhere blindly to any man's teachings, even if he has been your professor in surgery, but follow all teachings with self-questioning suspicion and incredulity. But a few years ago all surgical wounds were dressed with an antiseptic powder of some kind, now it is rarely ever done; all redressing and suppurating wounds were flooded with antiseptic solutions; it was considered imperative then; now how seldom they are ever used. A few years ago the best authorities taught that curettage was positively indicated in every case of acute tubal and peritoneal disease, when there was even a suspicion that the infection originated in the endometrium, and the more acute, the symptoms, the greater the indications for the operation. It is humiliating to think that intelligent men should have been so cruelly wrong in their teachings, and so narrow in their observations, and interpretations.

THE EVERY-DAY DOCTOR, HIS MEDICAL IDEALS AND SPHERE OF USEFULNESS.*

BY J. T. MOORE, M. D.,

Algood, Tenn.

Members of the Upper Cumberland Medical Society, Ladies and Gentlemen:

I feel a peculiar interest in having the honor of presiding at this meeting of our society because of the fact that I once lived here.

All members of this society, I am sure, have a special interest in meeting at Sparta; because here and in this county reside men who have for years been the backbone of the Upper Cumberland Medical Society. To the efforts, energy and ability of these men perhaps more than to those from any other county can be attributed

*Presidential address before the Upper Cumberland Medical Society, Sparta, Tenn., May, 1912.

the success of this organization, therefore in meeting here we can not but appreciate this fact.

After considerable meditation as to a subject for this address I chose to say something of the every-day doctor; thinking I could not select a more familiar subject.

The history of every profession is made by the character of the ideals of its individual members, every great movement is first conceived in some fertile mind. In the medical profession not unlike others, the same is true. I believe we can say of the every-day doctor he has contributed his share, he has a broad field for thought. He is supposed to know more than any one mind can contain; he is expected and should be endowed with sufficient skill to cope with any malady of which the human body is heir. I mean by that it is necessary for him to have such general knowledge of all that he may be familiar enough with himself to know what he is capable of doing and with an unselfish spirit by the aid of his colleagues in the profession give to suffering humanity, that degree of proficiency to which they are entitled.

There is no life which should be so unselfish as the every-day doctor. We should consider first the welfare of our patients. The medical profession is getting to be more and more a field of specializing. Some are interested and do more in certain lines of work than others and for this reason we should call in consultants often. We should not be so afraid of our fellow workers carrying off the honor and glory which should come to us.

In our hands are placed precious lives. We are trusted. It is left to us and God forbid, that if there is a doubt in our minds that the best is not being done, we should hang on without assistance until some pathology of which we are not familiar creeps on like a thief in the night and death covers up all.

The field which the every-day doctor has to cover is such that he can not hope to be skilled in all branches of our science. We may not be able to remove the stomach, extract a cataract, handle the cystoscope, or X-Ray, differentiate the various skin lesions, or tell the exact location of a lesion in the brain; but if we keep up with the advance of scientific medicine it is necessary for us to have a broad general knowledge of the whole, the principles upon which all ad-

vance procedures in medicine are based, and their field of usefulness. It is necessary for us to know and understand far more than we can possibly do; but there is always in easy reach men who can do the work we can not.

It appears that the work of the general practitioner necessarily can not lead but follow in the path of progress in medicine. We may advance ideas but it is left for others to do the scientific investigation. We put into practice what others have demonstrated. Ours is a field of observation and application, not one for experimentation. After good authorities have proven something and it appeals to our judgment we take hold and carry the good work along as best we can in some cabin in a lonely hollow or the house of the well-to-do and our deeds are practically unnoticed and unheralded by the world. Our work is not so spectacular as the surgeon, or near so remunerative; but we go on in a quiet way doing good remembering that the "Deeds of great men live after them."

The every-day doctor realizes and knows the great things the surgeon and other specialists do but I doubt if they know how many thing we do that they can not do. The man of widest knowledge in medicine today is the general practitioner but from year to year the times demand that he broaden his vision, that he be more thorough; hence it is necessary that his scope of work be narrowed. He can not equip himself to cover properly the whole field; therefore today the tendency to specializing.

There is one serious tendency in the every-day doctor's life which he should constantly guard against and that is in the rush of work passing up things too lightly which appear to be trivial. It is necessary to make a thorough examination of every case and investigation for the cause of symptoms. Sometimes the most serious diseases are approaching when the objective symptoms do not indicate it. Headache may be of a harmless nature or it may be a signal of approaching danger. A headache in a child may not be of much consequence but when behind it is an approaching tubercular meningitis, we place ourselves in an embarrassing attitude if we are not able to tell the danger and warn the parents of an approaching fatal malady.

The day is at hand when we can not be suc-

cessful and be too hasty in telling the patient the pain is just a rheumatic pain or a kidney trouble. A higher standard is set for us. The man who does not come up to this standard will have applied to him the just criticism, "He is a back number," when this comes it sounds his death knell in the medical profession. The people enlightened by civilization are competent to judge and in time we will be placed where we belong.

There are three qualities which I think are necessary for the every-day doctor, patience, firmness, and thoroughness. He should have patience to overcome obstacles confronting him in successfully educating the people as to their duty in helping in the work of preventive medicine. Patience to answer many questions and to be pleasant; patience sufficient to be pleasant when the call for service comes in the night while the body is tired; when it comes during slow, rain and storm; patience to suffer disappointments incidental to the call of duty when he has planned for pleasure; patience to live a life of uncertainty. Firmness that his diagnosis is not made for him and the treatment instituted by the patient or by a member of the family. Thoroughness that he weighs everything and becomes familiar with the conditions to be met and prepared to meet them.

When a young man begins to study medicine his aim is high, which is good. He thinks he is entering a noble profession, which is true. He sees riches easily gained staring him in the face which he finds, to his disappointment, is not true.

When I was a boy I memorized and recited a piece entitled "Young Man What is Your Aim and Object in Life?" At this time I would ask "What should be the aim and object of the every-day doctor? Is it that of wealth? I think not for there are other callings far more profitable in a financial way. You would not go to the medical profession in search of wealth. Is it that of fame, or power, or social distinction, or ease, or comfort, or long life? I think not.

It should be a call to battle against disease. It should be a life long enlistment on the side of humanity in its grim struggle with disease and death, a call to higher things for eager, honest men to harken, hear and heed. It is the voice of scientific medicine whose every estab-

lished truth is a prophecy for good to humanity pleading for fulfillment. It is a call speaking in the tones of the healing art as she asks that the most beneficent task ever intrusted to human hands be well done. It comes to us in the everlasting cry of human need. It makes its appeal from the silent graves of the untimely dead that asks of us their rightful years cut off. It challenges us in the words of Him who said "What do ye more than others?" this should stir the spirit in the life of every man whose heart throbs with the joy of battle and whose mind is uplifted by the power of the ideal, this is the spirit which should animate the mind of the every-day doctor from time immemorial unto the end of history. God intended for man to live out his days and when all diseases are mastered; if he does not; it will be because an error has been committed somewhere.

There are some obstacles which impede the work of the medical man. One thorn in the flesh is the quack. We have them in this part of the country. Man likes to be humbugged. He will turn a deaf ear to a profession which have devoted their lives to scientific investigations to combat disease and are never guilty of withholding a secret remedy for selfish gain. The members across the seas give to us the results of their investigations and we give them ours.

There is no drug in existence which is not open to the medical profession; yet some man with a mysterious air comes along and claims to have a drug unknown to all the world but him that will absolutely cure a serious disease. Some people otherwise intelligent will listen to him believe him and defend him against the many thousands of honest earnest men who know that he is a fake that lives by the blood of his victims. An unmitigated villain who robs the foolish, the poor and the suffering of money and of life itself. To the extent that such a character is upheld by the people and the law, just so much they impede the progress of medicine.

There is a work for good along this line for the profession. It is up to us to tell them of a fraud. Some will believe others will have to learn by the sad lesson of experience.

The every-day doctor is the medium through which better sanitary conditions are established

especially in rural districts. There is another feature of our work which is very important and badly neglected, that of collecting vital and mortuary statistics, and that of a more strict co-operation with our health authorities. The work along this line however is improving. Quarantine methods properly carried out constitute the great bulwark to the innocent from contagious diseases. The proper management of a quarantine is no easy task. It is like a complicated machine, one broken cog and it is worthless. The technique should be familiar to every physician, it is then necessary to impart this to the people. They must know a reason for everything before their co-operation can be secured. There must first be education therefore it necessarily comes slow. No scientific movement has ever been installed in the minds of an uneducated people.

The profession has had many obstacles to overcome in attaining the present degree of safety from disease. The work has many times been checked by those whom we would protect. I doubt if the laity realizes what blessings have come to them through the profession along the line of isolation and prevention of disease. Physicians have persuaded their fellow citizens to place in their hands the execution of the laws protecting the lives and health of the people of the state and the protection of its borders from epidemic invasions.

Time is not at my command to specify the many responsibilities they have thus assumed. The purity of our food and drink, the conditions governing the light and air in our public institutions, the isolation of infectious and contagious diseases. These and many other duties organized medicine is doing silently but surely like the unseen forces of nature.

Strong healthy robust individuals do not realize that organized medicine has protected them and those dear to them from such dangers as assailable helpless millions across the western ocean.

In China less than one year ago the existence of the plague seemed to destroy the very instinct of humanity. Husbands would desert their wives and mothers would flee from their children because of the doom the black death had set upon its victims.

By contrasting this condition of distress with ours you can appreciate what has been done by

organized medicine. It is of supreme necessity. Its absence would lead to chaos. Preachers and lawyers might abandon their organization, unions might disband, corporations might abandon their charters but somehow the work of the world would still go forward and society would continue to exist but once let the protecting arm of medicine which holds back from our shores those unseen dangers, be withdrawn and before many months passed there would creep into our population distressing maladies which if unchecked, the blackest days of history might again be enacted.

If we as members of the Upper Cumberland Medical Society wish to accomplish the greatest good let us aid in the collection of vital statistics, co-operate with our health authorities in the isolation and prevention of diseases, attend our various county societies and through them work for the Upper Cumberland Medical Society that we may make for it a glorious future.

SALVARSAN AND THE WASSERMANN REACTION.

BY WM. LITTERER, A. M., M. D.,

Nashville, Tenn.

Professor of Bacteriology and Pathology, Vanderbilt Medical College.

The earlier reports on the efficiency of salvarsan were so glowing that its action promised to be that of a harmless and magical specific, but observations, when extended over a few weeks and months, have shown clinical relapses in a disappointingly large number, and a still greater number failed to obliterate the Wassermann, although clinically they were cured. Herein lies the danger of the drug, in the power in some cases to change an active syphilitic into a latent one, and the patient, thinking himself cured, takes no further treatment, only later to probably develop some of the parasyphilitic conditions.

The serologic management of the patients after the treatment with salvarsan is of the greatest importance, if we wish to carry them to a successful termination. In fact, it is the

only method available of controlling the disease before external manifestations occur.

A patient in whom the reaction persists after treatment must be considered as not cured. If the reaction disappears we have to differentiate between two possibilities; either we have a true cure, which is indicated by the lasting disappearance of the reaction, or, on the other hand, we may be dealing with a transitory negative phase, due to the fact that the remaining spirochaetae are so diminished that those still left are not able to produce a reaction, and when they have again increased in number a positive reaction will again recur. This positive relapse without external manifestations is an indication for further treatment.

The Wassermann test as a therapeutic guide:

It is now the consensus of opinion among syphilographers that the serum test is exceedingly valuable in attaining the fullest measure of therapeutic efficiency in the treatment of this disease. In the past, syphilis has been more under-treated than over-treated. This is clearly shown by the results of Lesser, who has applied this test in more than 2,500 cases of syphilis, and has given this phase of the subject considerable thought. His conclusions are that the treatment must be more intense than is at present customary in order to transform the positive response of the test into a negative. The transformation of positive into negative findings was obtained by him in only 35 per cent under ordinary dosage, and in a number of cases, in which the reaction had become very faint under this dosage it had become positive again when the test was applied a few weeks later. He asserts that it is necessary to continue treatment until the hemolysis in the test occurs promptly; as long as it is sluggish the treatment is required.

Butler,* in his early writings on the Wassermann test, discusses the parasyphilitic state, and suggests the test as a therapeutic guide in warding off these very conditions. He makes the following pertinent observations, viz.: That it would appear at this time that the serum reaction may prove a guide, an index, so to speak, to check up and control in a certain measure

the destiny of our patient, and it seems not improbable that we might thereby be able to pilot him clear of assaults on his nervous system that result in cerebral or cerebrospinal syphilis the parasyphilitic affections or visceral lues. He further says that it is a well-recognized observation that exactly those patients with syphilis who run a mild course and in whom the symptoms clear up early, are often subsequently the subject of tabes or progressive paresis, in contrast to cases of apparently greater severity that are, as a result, subjected to repeated courses of treatment. He says in the apparently severe, because it is not improbable in many of what may be termed mild cases, the syphilitic virus exhibits a selective action for the cerebrospinal system, and we may have resulting a wear and tear disease of the nervous system from the too strong production of syphilitic antibodies.

The reappearance of the reaction should at least be watched for in the syphilitic patient, instead of waiting for the development of the so-called parasyphilitic diseases. Such diseases might possibly be obviated by the regular and methodical use of the Wassermann test as an index for the treatment.

Another point relative to the test as a therapeutic guide is the fact that there are a great many cases in which the spirochaetae pallida become immune to mercury, because of the underdosage of the drug. In these cases the Wassermann would show positive. Whenever a positive test is recorded it most certainly demands specific treatment, regardless of negative clinical findings. A negative test during the course of the treatment is of no value, except that it assures us that our treatment is proving satisfactory and that it is under our control. It should by no means be assured that the disease is cured.

The ideal procedure is to have a Wassermann performed every three months during treatment.

After the treatment is discontinued the test should be repeated every three months for the first year and perhaps twice a year for the next few years.

Below will be found a few abstracts collected by Owen† in which they refer in the great ma-

*Butler, New York Medical Journal, November, 1907.

†Detroit Medical Journal, November, 1911.

jority of cases to patients who received only one injection, the majority intramuscularly, though a few cases, as noted, treated intravenously, are also included, and also some cases which received more than one injection, as follows:

Fox reports 34 cases, of whom 27 received one injection, and seven, two or more, some intramuscular and some intravenous. In all about 60 per cent were still positive, during observations extending from five weeks to six months.

Trimble reports about 25 per cent of relapses in all stages.

Pollitzer says: "A single injection is effective only in about 20 per cent of cases in general. Earlier cases will give a higher per cent of cures."

Meltzer states: "In many instances the syphilitic human body cannot be sterilized by one injection."

Fordyce, reporting 100 cases, observed from periods of from two to five months, had clinical or seriological relapses in 33 per cent after one injection.

Goldenberg and Kaliski obtained only three negative Wassermann reactions among thirty-nine patients receiving one injection, and two of these subsequently relapsed.

In a later paper these same authors report some 100 cases treated by the intravenous route, many of whom received more than one injection, and in some of whom the intravenous injections were followed by an intramuscular. Under this more vigorous medication they have had cases which have remained free from symptoms and which have kept a negative Wassermann reaction over eight months.

Wolbarst, reporting 50 cases, obtained about 64 per cent of clinical cures following one injection, but only about 40 per cent of this number gave a negative Wasserman. His cases were observed for from three to ten months.

Freund was able to get but fourteen negative in forty-three cases followed serilogically, using subcutaneous and intramuscular injections. His observations covered a period of only four months.

Favento, using the intravenous route, was able to weaken the strength of the reaction, but to obtain a negative one in only a few cases. He has given as many as six intravenous doses to one patient.

Noguchi and Brafanbrenner report 33 per cent of negatives in 102 cases, the best results following intravenous injections.

Original Observations.

Especial effort has been put forth to determine the efficiency of salvarsan, using the Wassermann test as a check. Below will be found six charts which are in the main self-explanatory:

Chart No. 1.—Represents fourteen cases (secondaries). No previous treatment. All Wassermann positive. Each patient was given intramuscularly .6 of a gram of salvarsan. The Wassermann's were recorded on the first, second, third, sixth and ninth months.

Chart No. 1.

Intramuscular Salvarsan Effect on Wassermann Test.

Months Observed --	1	2	3	6	9
Serum Reaction ----	+—	+—	+—	+—	+—
14 Cases Secondaries	4-10	4-10	8-6	11-3	14-0
Negative -----	71%	71%	43%	21%	0%

Chart No. 2.—Shows seventeen cases (secondaries). No treatment having been instituted; every one showing the Wassermann reaction. Each patient was given an intravenous injection of .6 of a gram of salvarsan. The Wassermann's were made on the first, second, third, sixth and ninth months.

Chart No. 2.

Intravenous Salvarsan Effect on Wassermann Test.

Months Observed --	1	2	3	6	9
Serum Reaction ----	+—	+—	+—	+—	+—
17 Cases Secondaries	4-13	5-12	8-9	14-3	16-1
Negative -----	77%	75%	53%	18%	6%

Chart No. 3.—Represents eight cases in which only one dose of salvarsan (.6 of a gram) was given intravenously. No other treatment was instituted. These cases were strictly primary ones. Duration of chancres no longer than one week. Every chancre excised before the treatment. The Wassermann test was negative.

Tests of the blood were made on the first, second, third, sixth, and ninth months.

Chart No. 3.

*Primary (3 to 7 days' duration chancre excised)
Wassermann Negative Intravenous.*

Months Observed--	1	2	3	6	9
Serum Reaction----	+—	+—	+—	+—	+—
8 Cases-----	0-8	0-8	0-8	2-6	4-4
Negative-----	100%	100%	100%	66%	50%

Chart No. 4.—Shows twenty cases of secondaries, all strongly Wassermann positive. Secondaries showed up four to ten weeks from the appearance of the initial lesion. No treatment had been instituted. Two injections of salvarsan, .6 of a gram each, were given, from four to eight days apart. The Wassermann test was recorded on the first, second, third, sixth, and ninth months.

Chart No. 4.

*Two Intravenous "606" Four to Eight Days
Apart.*

Months Observed--	1	2	3	6	9
Serum Reaction----	+—	+—	+—	+—	+—
20 Cases Secondaries	3-17	3-17	4-16	10-10	17-3
Negative-----	85%	85%	80%	50%	15%

Chart No. 5.—Represents twelve cases of primary syphilis, with a duration of the chancre ranging from three to thirty days, with a negative Wassermann in all cases. No treatment given except a single dose, .6 of a gram of salvarsan. The Wassermann was recorded the first three months, then on the sixth, and finally on the ninth month.

Chart No. 5.

*Primary (3 to 30-day duration) Wassermann
Negative Intravenous.*

Months Observed--	1	2	3	6	9
Serum Reaction----	+—	+—	+—	+—	+—
12 Cases-----	0-12	0-12	1-11	4-8	8-4
Negative-----	100%	100%	91%	66%	33%

Chart No. 6.—Records seven primary cases of three to twenty-two days' duration, with a negative Wassermann. No treatment instituted save a single intragluteal injection of salvarsan (.6 of a gram). The Wassermann test was made on the first, second, third, sixth and ninth months.

Chart No. 6.

*Primary (3 to 22 days' duration) Wassermann
Negative Intramuscular.*

Months Observed--	1	2	3	6	9
Serum Reaction----	+—	+—	+—	+—	+—
7 Cases-----	0-7	0-7	2-5	4-3	5-2
Negative-----	100%	100%	71%	43%	28%

Spirochaetae Refractory to Salvarsan.

There are certain strains of spirochaetae that are especially refractory to the action of salvarsan. I have seen two cases in which seven doses of the drug were given without the Wassermann being in the least affected, although the clinical symptoms disappeared after the third intravenous injection. Hypodermic injections of Hg. for one month succeeded in obliterating the Wassermann in the two above cases.

Spirochaetae Refractory to Mercury.

I have encountered fourteen cases of malignant lues in which Hg. and the iodides failed. All showed actively positive Wassermann's in spite of treatment with vigorous anti-syphilitic remedies. The Wassermann was obliterated in ten cases in eight weeks' time as a result of an intravenous injection of salvarsan. The remaining four were given another injection which resulted in obliterating the test in two cases, while the remaining two were unaffected by the third dose, yet the symptoms entirely disappeared.

A Report of an Unique Case.

I should like to report a unique case, which I believe to be one in which Ehrlich's "therapia sterilizans magna" was attained. This patient gave a typical clinical history of chancre on the penis. Spirochaetae pallida were found in large numbers three days after the appearance of the primary lesion. The Wassermann was negative. The chancre was excised and the spirochaetae

were demonstrated in the tissues by the Levaditi stain. After the method of Iversen, an intravenous injection (0.5 gram salvarsan) was given, followed four days later by another (0.5 gram) intravenous, and five days later an intramuscular injection (0.6 gram) by Lesser's method was administered. No other anti-syphilitic treatment was instituted. The patient felt perfectly well in every respect. Wassermann tests were made every month for ten months with negative results. At the end of the tenth month this patient developed another chancre on the penis, which came nineteen days after a suspicious intercourse. The chancre was typical in every respect and numerous spirochaetae were found in the lesion. One intravenous injection of salvarsan caused its disappearance in two weeks. To my mind this is a case in which the first three doses of salvarsan produced a complete sterilization of all the spirochaetae in the body. Ten months elapsed without the slightest symptoms, and repeated negative Wassermann tests were always recorded. The appearance of the second chancre is a probable demonstration of an instance of Ehrlich's "therapia sterilizans magna."

Conclusions.

1. Under our present interpretation, a positive reaction means that an active syphilis exists, and that it indicates that there should be an exhibition of anti-syphilitic treatment.
2. Since proper anti-syphilitic treatment causes the disappearance of the Wassermann it should be regarded as an index as to the efficiency of a line of treatment in that particular case.
3. There seems to be no uniformity between the disappearance of the Wassermann reaction and in the improvement of the patient having had a dose of salvarsan.
4. In a number of instances, relapses could be foreshadowed by the Wassermann test before clinical symptoms manifested themselves.
5. In internal medicine, neurology and pediatrics and surgery—in fact, in every department of medicine—the Wassermann test is of inestimable value as corroborating or dispelling the suspicion of an active specific disease.

"THE CARE OF THE TUBERCULOSIS INVALID."*

BY R. N. TAYLOR, M. D.,

Alamogordo, New Mexico.

If the writer could give the subject in hand the full and complete discussion its importance entitles it to, instead of a small pamphlet, this paper would develop into a small sized volume.

In order to properly discuss this matter before you, it would become necessary for me to cull a mass of literature on the subject; and I find myself physically unable to do the culling. I shall, therefore, just present my own ideas relating to this matter after a somewhat extended personal experience with the disease in question.

One of the most important points in the care of the tuberculosis invalid is the suppression of the disease and the prevention of an infection in individuals associated with such invalids.

Upon this one thing, depends the ultimate result of the present fight against this disease and the protection of generations yet to come. The care of the already infected individual is of secondary importance when compared with the protection of the uninfected although the one will, of necessity, imply the other.

As early as a diagnosis is made, the patient should be placed in the care of a competent nurse, who can teach him in the great importance of observing the following rules in regard to caring for himself.

The tuberculosis invalid should sever all business connections as soon as possible and make his business that of getting well. It is very important that this matter be considered just as early as possible after the diagnosis is made, because an early beginning is the keynote to the whole situation and any delay lessens the chance for recovery.

A change of climate is doubtless beneficial but a change of environment is more important. When we compel a man to change his whole course of life and action, we are almost

*Read before Hamilton County Medical Society, August 13, 1912.

compelled to surround him with new faces and new conditions in return.

Change of climate usually involves a change in altitude as well, and that should be undertaken only on the advice of a very competent physician after a thorough physical examination.

It is well known to all observers that one of the earliest manifestations of tuberculosis is an increase of the pulse-rate. This indicates at once that something is wrong with the circulation as well. It becomes necessary for us to refrain from voluntarily giving the heart more work. The proper oxidizing of the blood requires the employment of two well-developed lungs and any reduction of normal lung-space is compensated for by an increase in the pulse-rate also.

With the normal man, an increase in altitude (a few thousand feet) will sometimes cause alarming symptoms, and you can readily see what this might mean to one whose heart's action is already disturbed and whose lung-space is already reduced.

The sputum should be carefully collected in paper cups and cremated, and the patient should be taught not to expectorate on the ground at all. This is important not only for the protection of the uninfected but to prevent a reinfection of other invalids who may be recovering, for a reinfection with a new strain of bacilli should be regarded as a grave complication. This is readily proven by the fact that a single strain of bacilli propagated from the same culture medium continuously, loses much of its virulence and a change of culture medium develops again the ordinary virulence.

The body excretions should be carefully disinfected as tubercle bacilli can be demonstrated in the feces and urine almost constantly.

Bathing should occur as often as necessary to keep the body perfectly clean. The temperature of the bath must be adjusted to the individual in all cases. No strict rules apply here.

Tuberculosis invalids should keep the face free from beard as the hair is a great carrier of infection ordinarily.

The hands and nails should be kept scrupulously clean and should be thoroughly cleaned before eating or handling food. Separate tableware and drinking vessels should be provided

and these should be sterilized frequently and thoroughly.

The teeth should be carefully brushed before and after eating, for even with all of these precautions many bacilli will get into the food.

The diet should be extremely nourishing and easily assimilated, for the very great drain on the system that always accompanies this disease, renders it imperative that the food be of the very best and that its assimilation cause as little strain on the digestive organs as possible.

Much has been said concerning forced feeding and a milk and egg diet. The term "forced feeding" is often interpreted to mean a constant stuffing of the victim. In many cases, the patient is fed six or seven times a day. No more deplorable mistake can be made than that of keeping food in the stomach constantly. The meals should be taken at regular meal time and the stomach allowed to empty itself and rest between times.

My idea of "forced feeding" is to give the invalid a regular meal at meal time and follow this with two or three raw eggs and a glass of milk. The food should be taken with as a little cooking as possible and a variety should be encouraged. With a little persistent investigation, a very satisfactory diet can be arranged.

Only in emergency cases would I allow feeding between meals, as the proper conservation of the digestion is too important to allow it to be over worked without a mighty good reason.

The matter of a sleeping apartment is of the utmost importance and we always find it necessary to lay great stress on this feature.

Very few people make any attempt to ventilate their bedrooms during good health and can't realize the necessity for it in sickness.

It is not possible to ventilate a room in a dwelling sufficiently and we are compelled to look for sleeping arrangements outside.

The window tent so often used and sometimes recommended by the medical profession is only a makeshift; because it is almost as important that the whole body be more or less exposed to the action of the pure air as that we breathe it. For this reason, the invalid should sleep in an outside apartment which will allow free circulation of air through it. For this purpose, a porch screened with ordinary wire cloth, serves the purpose admirably. Screens can be

arranged about the bed in case of rain, although I have not found it necessary to leave my unprotected bed more than two or three times; and I have not "taken cold" during the whole of my sleeping out experience.

A good bed must be supplied and the comfort of the patient carefully looked to. It is impossible for this character of invalid to undergo the hardship of camp life with any certainty of improvement.

The matter of rest has been much discussed pro and con, and both sides have many advocates. I believe however that at the present time most men who have had an extensive experience with this disease, favor absolute rest during the febrile stage of the trouble and comparative rest over an extended period during convalescence with a very gradual return to exercise.

Certainly no greater error can be made than to advise the victim of tuberculosis to "go West and rough it." The difference of altitude catches the poor fellow quite unawares and before he realizes what has happened he sustains frequent hemorrhages or attacks of cardiac weakness. When this condition is once established, it is a very difficult matter to control and almost always forces the patient to spend much longer recuperating than would have been required if the proper precautions had been observed in the beginning.

Another very important reason for sending the tuberculosis invalid to a health resort as early as possible after a diagnosis is that the ambulatory patients find no difficulty in finding accommodations while it is almost impossible to get accommodations for a bed patient.

WHAT'S THE MATTER WITH MICHIGAN?—"Professor Samuels," of eye-water fame, finding things uncomfortable in Kansas, announces his proposed removal to Michigan, a State where quacks are least liable to inspection on the part of officials. Michigan, it appears, has as many mail-order medical fakes of a vicious and fraudulent character as can be found in any other three States in the Union, irrespective of population, and one wonders what peculiar influence protects swindlers in this State.—*Jour. A. M. A.*, March 23, 1912, p. 863.

GRAFTING OF HAIRY SKIN.

Lauenstein reports an unsuccessful attempt to transplant a hairy piece on one man's scalp to the scalp of another who was bald. The portions of scalp were exchanged between the two men, the hairy one necrosed, the transplantation of the other was successful in part, the base adhering, the superficial layer dying.—*New York Medical Journal*.

To the senior man in our ranks we look for an example, and in the smaller towns and country districts if he would remember that it is his duty to receive and welcome the young fellow who settles near him, that he should be willing to act as his adviser and refuse to regard him as a rival, he may make a good friend and perhaps gain a brother.—*Wm. Osler*.

Experience teaches that it is unwise for a physician to treat members of his own family or himself. Consequently, a physician should always cheerfully and gratuitously respond with his professional services to the call of any physician practicing in his vicinity, or of the immediate family dependents of physicians.—*Principles of Ethics, A. M. A.*

MORSE'S CREAM.—Morse's Cream Hazen Morse, New Rochelle, N. Y., was said to be a "Cod Liver Oil Cream," which was "artificially digested," and to possess "10 times greater nutritive value than cod-liver oil." The analysis showed the preparation to be an ordinary cod-liver oil emulsion containing 39 per cent cod-liver oil and not 67 per cent as claimed and which had *not* been artificially digested. The defendant pleaded guilty and was fined.—*Journal A. M. A.*

THE GULLIBLE DOCTOR.—Dr. J. E. Reeder, Dyersville, Iowa, deprecates that physicians heed the recommendations for proprietary preparations advanced by ignorant salesmen. It seems as if the average physician could not say "no" to these semi-patent medicine agents, and this accounts for the number of thrifty proprietary houses which are supported by the "gullible doctor."—*Journal A. M. A.*, Nov. 9, 1918.

THE JOURNAL*of the***Tennessee State Medical Association****Office of Publication, Jackson Building, Nashville, Tenn****JANUARY, 1913.****EDITORIALS**

1913.

A new child of time has made its advent. What has it in store for the medical profession of the nation and of our state, for this Association and its individual members? Were we gifted with prophetic vision we would welcome the privilege of voicing in advance the appropriate word of cheer and congratulation, or sounding the fitting note of warning and condolence. All that can be said with certainty is that the events and experiences of the future will be the natural outgrowth of the events and experiences of the past. From the practical viewpoint, the flight of time is not marked by the artificial limits of annual or other divisions. Each year and each century receive rich legacies from all that have preceded and the achievements wrought in any given period are but the superstructure erected upon foundations laid in the past. The full-blown blossom attracts attention and elicits admiration, often to the entire neglect of the humble bush which bears it and the still more humble, but equally wonderful, roots which reach out far down below and gather up the elements of fragrance and beauty.

The year, 1913, looms large with promise and with possibility for this Association. If, in the past, progress has been a little slow, if apathy has seemed too much in evidence, if opportunities have sometimes not been seized as they presented, there is still no real cause for discouragement. To those of earnest purpose the mistakes of yesterday may and should afford the securest footing for today's journey toward tomorrow's goal. Richer in heritage than we stop to realize, stronger also in independent power

than we even imagine, there is no reason why the best and most prosperous of all years should not be the one into which we have just entered.

The pride and conscience of our profession are alive today as never before. In ability to serve we have attained to splendid heights. The problems of the past which baffled and defeated us constitute the every-day working knowledge of the present. Looking forward from the vantage point of results achieved, we may, if we have the courage, be assured that difficulties only seem such at long range, that obstacles exist mainly to inspire determination and stimulate endeavor.

Great plans have been formed and great projects launched. Shall they be carried to fruition? The issue rests with you who read these words. United, we can not fail. And, whether success be immediate or remote, we shall profit. Results accomplished merely serve to mark the way of progress. The real gain comes from the effort put forth.

"Oh! The rare sweet sense of living when one's heart is in his labor

And the very joy of doing is life's richest, noblest dower.

Let the poor, yea poor in spirit, crave the purple of his neighbor

Give me first the *strength for serving* and the golden present hour."

CO-OPERATION—OUR GREATEST NEED.

Lack of co-operation has long enough obstructed the progress of the Tennessee profession. It is true that comparisons are often odious, but they may sometimes be salutary also. We have only to look around to perceive that we are sadly lagging. If, as is generally accepted, organization is the true measure of progress, the explanation is obvious. Consider for a moment. Only about forty per cent of the eligible physicians of Tennessee are members of the State Medical Association; less than fifteen per cent are affiliated with the great national organization. In both these respects we stand at

the very bottom of the list. In his opening address before the House of Delegates at the last meeting of the American Medical Association, President J. B. Murphy openly stated these humiliating facts, and that at a time when our state, with a candidate for the presidency in the field, should have appeared in the most favorable and deserving light.

Any member of the medical profession who is so myopic that he cannot see, or so pippin-headed that he will not admit the benefits of organization, would probably not be reached by the most cogent arguments on the subject. But even such misfit individuals should realize that it is the one standard by which the profession of a community or state is judged. And if the personal advantage to be gained is not sufficient incentive to induce them to become allied with organized medicine, the good of their more needy brethren and a becoming sense of pride in the calling through which they earn their daily bread, should suffice.

There are ninety-six counties in Tennessee, more than one-third of which have no semblance of a medical society, and a woeful number of the remainder have a semblance only. This is a most deplorable state of affairs. While it is true that in certain remote districts it would be impossible to maintain a county organization, such is the exceptional case. There should be and could be medical societies in at least eighty counties, and there should be no less than twenty-five hundred bona fide members of the State Association. With such organization and membership, the great ideals for which we strive would be comparatively easy of attainment.

The fifty-eighth General Assembly is now in session and measures of the most vital importance to our state will come up for consideration. Their fate no one can predict. The vote of the legislator who comes from a county in which the profession is unorganized and indifferent, will count for just as much as that of the one who comes well informed, in advance, by his home physicians and prepared to vote intelligently. And, even though the measures are finally successful, it will necessarily be at the expense of far greater effort and anxiety on the part of those who shoulder the burden than should have been the case.

Earnest, persistent co-operation of the forces

at present available is the pressing need of the hour. Can any less be asked or expected? The few self-sacrificing men who will be upon the firing-line need support and encouragement, for the work they assume will be neither easy nor pleasant. Let us remember that it is our work they undertake.

MEDICAL LEGISLATION.

The most that is known, in a general way, of the function of State Boards of Health, is in connection with the sending out of certain experts to teach physicians and others what is not known of pellagra and hookworm disease. Published statistics periodically distributed give about the same literary exhilaration as the reading of a page of logarithms or a patent office report or the Chronicles of the Kings of Israel. From the standpoint of your reader, who from this assignment, would be supposed to know something of the constitution, character and labors of State Boards not much more than this hazy view can be elicited. This circumstance does not matter very much, however, as the present purpose is to consider what should be the organization and work of this body, and not what it has not done.

No department of the State service is of so much importance to the well-being of its citizenship, as the State Board of Health. The collection of vital statistics, the guarding of the territory against the invasion of disease from without and the research study of obscure conditions within its borders are of course its duties. But in addition to all these it should be the leader in all sanitary reform—suggesting and enforcing pure food regulations, the protection of streams from contamination, the improvement of the present custom of earth burial of the dead, and an active leader in combating tuberculosis, the social evil, and many other things of almost equal importance.

To this end it should be the duty of the legislature to put the State Board of Health on the highest possible plane of efficiency, and to provide it with an appropriation adequate to its functions. This body should be made up of a membership schooled in the specialized duties expected, free from political embarrassments and without individual auxiliary engagements to divert its energies. It has been suggested that this

Board be composed of persons named by the State Medical Association. While this would involve some complications, to be sure, yet with all it appears a wise plan, as from no other source could be obtained better knowledge of the peculiar fitness necessary to the duties required.

On a recent occasion I made mention of the circumstance that the State, in addition to her splendid efforts in the advancement of agricultural, horticultural, live stock and other interests, was maintaining, in every county, experiment substations for the cultivation and distribution of tuberculosis, with headquarters at the central prison. On another, to the fact that our streams are being impregnated with all character of refuse and filth, and that too at a time when nothing else is allowed for drinking purposes. On still another occasion, I made mention of the economic practice of the State in eliminating the unfit of her citizenship by allowing them to die and be buried almost out of sight, in twos and threes, or any convenient number, wherever a cheap pottersfield could be located. These modest statements received no clamorous refutation on the part of this society, at the time, and most likely would not today. In this same connection might be mentioned the licensed propagation of citizens from epileptic, luetic, insane, and criminal stock. These few instances are suggestive of the imperative occasion for health organizations of the right make-up and with power to do something.

I submit to you, that as taxpayers and citizens and exponents of scientific sanitation, you gravely demand of your representatives some radical improvement in the health laws of the state. In a spirit of derision the question is repeatedly asked: What is the matter with Tennessee? The answer is humiliating, but easy. Too much politics and not enough good, sound, practical business judgment. There is a grand opening for some pioneer statesman to immortalize himself by entering this unused field and start in operation the easy mechanism necessary to place Tennessee abreast the spirit of progress.

S. M. MILLER, M. D.

Knoxville.

LEGISLATION NUMBER.

It was our purpose to make the January issue a legislation number; but owing to the impossibility of obtaining copies of the proposed bills to be introduced in the Legislature, we find it necessary to defer this scheme until next month, at which time we hope to be able to place in the hands of the profession of the state a copy of all bills of interest to the medical profession, so that each physician may familiarize himself with what is proposed in his behalf and in the interest of the public.

In the meantime, we would impress upon the profession of the entire state, the necessity of getting in touch with their local representatives and by personal influence, correspondence, and otherwise, awakening their interest in the health measures which will come before them for consideration during this session. The average legislator, like other people, is peculiarly susceptible to suggestions emanating from his friends and neighbors—much more so than when such matters are presented to him by strangers. It is, therefore possible for the profession of the state at large to render invaluable service in these vastly important undertakings and we earnestly urge that they will arouse themselves to a due sense of personal responsibility in the matter.

MARRIAGES.

The marriage of Dr. Wm. Krauss, of Memphis, to Miss Mary Louise Baxter, of Nashville, took place at high noon, December 24th, at Christ Church, Nashville.

DEATHS.

Dr. M. F. Jeralds, of Jeraldstown, Tenn., age 91, died at his home, January 5th, 1913.

Dr. P. N. Jenkins, of McBurg, Tenn., while returning home from a trip to Pulaski, January 6th, was caught in an overflow of a small branch, known as Little Bradshaw, in Lynnville, and was drowned. Dr. Jenkins was 45 years old, and leaves a family. This recalls the tragic death of Dr. W. E. Wilson, whose life was lost, under similar circumstances, in the same locality.

THE PROPAGANDA FOR REFORM

We take the liberty to reprint in full, from the *Journal* of the American Medical Association, of January 4, 1913, the following matter relative to Micajah's Uterine Wafers, Rheumaticide and Kosine.

MICAJAH'S UTERINE WAFERS.

A Chicago physician sends us a batch of advertising matter and a sample package of Micajah's Medicated Uterine Wafers. He writes:

"Another secret formula that performs the great wonders usual to the 'unknown.' I do not find this wonderful 'combination of several well-known, approved and time-tried antiseptic, astringent and alterative medicaments,' mentioned in New and Nonofficial Remedies. The only mention of some of the ingredients in the enclosed is found on page 2 of their advertising leaflet, 'Non-Surgical Gynecology'—'borate of sodium and alumen.' They quote fifteen doctors and two editorials to prove that secrecy, and their statements as to results, do 'great work.'"

As our correspondent says, there is no reference to this product in New and Nonofficial Remedies. He will find, however, several pages devoted to the nostrum in the Propaganda for Reform booklet. Micajah's Wafers were analyzed in the Association's laboratory and found to consist essentially of burnt alum, boric acid and borax in approximately the following proportions:

Alum, dried	59.86 per cent
Borax, dried	15.62 per cent
Boric acid	5.67 per cent
Water of hydration . . .	18.85 per cent

These are the "well-known, approved and time-tried antiseptic, astringent and alterative medicaments" for which Micajah & Co., together with several testimonial-writers, claim so much. To quote from previous comments made by THE JOURNAL on this product:

"That a mixture of borax and alum may be of value in some of the simple ailments of the female genital tract can easily be granted. That relief might follow the use of suppositories made

of these ingredients—especially when supplemented by an increased attention to simple cleanliness—can also be admitted. To say, however, that such medicaments will quickly and permanently cure gonorrhea, urethritis, endometritis, etc., is foolish, false and vicious."

In spite of the fact that the medical profession has been apprised of the fraud and deceit connected with its exploitation, this preparation is still advertised in several medical journals. Some of these are:

Medical Record
Therapeutic Gazette
Medical Times
New York Medical Journal
American Journal of Surgery
Interstate Medical Journal

RHEUMATICIDE.

Inquiries have been received regarding the so-called Wallace treatment for rheumatism marketed by the Rheumaticide Company, New York City. It is advertised in the newspapers, and those who write for information are sent a booklet entitled "Rheumatism Cured" together with a circular containing testimonials. The Rheumaticide Company is said to have for its president one George E. Burroughs, while Dr. Thohas A. Wallace is referred to in the company's advertising matter as its "consultant," and a Dr. James C. von Spiegel, it is claimed, administers the nostrum in New York City.

Some of the claims made for this nostrum are:

"It is the only treatment that cures."

"Gout, Lumbago, and Sciatica promptly and permanently cured by our treatment."

"The only bona-fide cure for rheumatism."

"No treatment can permanently arrest and cure Rheumatoid Arthritis, Arthritis Deformans or chronic Gouty Arthritis, except our treatment."

"The Wallace Treatment neutralizes the toxins and kills the germs, thus effecting a permanent cure."

"The Wallace Treatment . . . is absolutely up-to-date."

"No specific treatment for rheumatism, wor-

thy of the name, had ever existed until the introduction of our remedy."

Many other statements equally false appear in the Rheumaticide booklet. The booklet of testimonials carefully avoids giving the name and address of the individuals supposed to have been cured.

Contrary to the common run of "patent medicines," Rheumaticide is for hypodermic use and is supposed to be administered by a physician. The stuff comes in sealed tubes, each tube containing enough of the preparation for one "treatment" and costing \$2.50. The Association's chemists examined Rheumaticide and reported as follows:

A sealed tube containing a preparation called Rheumaticide was received. The tube contained about 1 gm. (15 grains) of a dark brownish-red, viscid liquid, which had an odor like iodine and somewhat like phenol (carbolic acid). The quantity of material was so small as to preclude anything more than a cursory examination, but a titration with tenth-normal sodium thiosulphate indicated the presence of about 9 per cent of free iodine; a determination of the total iodine indicated the presence of about 40 per cent. From this it was concluded that the essential constituents of Rheumaticide are uncombined iodine and iodine-phenol with traces of hydriodic acid. A preparation obtained by mixing the following was found, after standing twenty-four hours, to have properties quite similar to those of Rheumaticide:

Carbolic acid	2 parts
Glycerin	4 parts
Iodine	4 parts

And yet the exploiters of Rheumaticide call their nostrum a "serum" and inveigh against the use of drugs in this disease! For example:

"Drugs—confessedly useless even by those who prescribe them."

"It relieves the pain rapidly, but the relief thus obtained, unlike that from drugs, is permanent. . . ."

"Introduces no substances foreign to the economy."

In short, the exploitation of Rheumaticide is merely an impudent attempt to foist a nostrum on the public with the aid of such physicians as are willing to become partners to such a scheme. The annual report of the counsel to the Medical

Society of the County of New York for 1911 stated that the Rheumaticide Company was found guilty of practicing medicine and that a fine of \$250 was imposed.

KOSINE.

"What," asked a correspondent, "is Kosine, made by the Kosine Company of Washington, D. C., and sold as a cure for epilepsy?" No examination of "Kosine" has been made in the Association laboratory. According to an analysis by the New Hampshire State Board of Health (*New Hampshire San. Bull.*, October, 1909, p. 138) Kosine contains antipyrin 0.64 per cent, ammonium bromide 4.97 per cent, and sodium bromide 2.4 per cent. From this it appears that "Kosine" is similar in composition to many other "epilepsy remedies" on the market.

PAY YOUR 1913 DUES PROMPTLY.

County society secretaries are now sending statements to their members for 1913 dues. We urge members to pay their dues promptly so that their standing in the Association shall be established right from the beginning of the year. Good standing in the Association means so much to every member that the payment of dues should not be lightly passed over and neglected to a convenient time later in the year.

Send your check to your county society secretary at once so that he can send your state assessment to the state secretary immediately.

ACTION OF SHRIMP ON TIN.—The popular idea that only acid substances attack tin is wrong. Fish, asparagus, beans, pumpkin and spinach are not acid and yet their corrosion of tin is quite marked. This is probably due to amino compounds, substances related to ammonia. In the case of shrimp, the cans are often eaten through in a comparatively short time. So alkaline is the methylamine contained in the shrimp that workmen in the canneries find the skin peeling off their hands and their shoes eaten through. Shrewd observation by some canners led to the discovery that if the shrimp were iced for a day before canning the corrosive action of juices was greatly diminished. This is now the universal practice. In addition, the cans are lined with paper to prevent contact of shrimp and tin.—*Scientific American*.

NEWS ITEMS.

Master Emanuel E. Reisman, Jr., was a most welcome visitor to Dr. and Mrs. E. E. Reisman, of Chattanooga, December 30th.

Dr. Jno. S. Beasley, of Centreville, was elected County Health Officer for Wilson County to fill the vacancy left open by Dr. J. W. Thompson.

Dr. Thos. C. Holloway, of Lexington, Ky., has removed to Memphis, Tenn., where he will limit his practice to Surgery of the Genito-Urinary Tract. He will be affiliated with Drs. Crisler and Johnson and Dr. Frank A. Jones and their associates in the Cotton Exchange Building.

Dr. M. Goltman, Superintendent of the Memphis Board of Health, recently issued bulletins requesting that all citizens be vaccinated as a further means of preventing an epidemic of spinal meningitis in Memphis.

Dr. Goltman said: "Spinal meningitis has not reached the epidemic stage in this city and there is no danger that it will. There are very few cases and if the public will assist us by observing due precaution, we will be able to prevent an epidemic."

At a recent meeting of the Hamilton County Medical Society and Chattanooga Academy of Medicine, Dr. H. P. Larimore was elected President; Dr. William M. Bogart, Vice-president; Dr. C. B. Wiley, Secretary-Treasurer, and Dr. Joe W. Johnson, Censor.

We congratulate the Chattanooga Academy upon the selection of their officers and feel sure that the apathy which has existed in that society for the past year, will soon pass away and that we will again receive the reports from Chattanooga.

We are pleased to announce the opening of the Wautauga Sanitarium at Ridgetop, Tennes-

see, which will be in full operation not later than April 1st, 1913.

The sanitarium will be for the care of tuberculosis in both its medical and surgical aspects and will only receive patients offering some hope of cure.

The following staff, consisting of Nashville's foremost physicians, has been selected, which assures our readers of the high class institution it is proposed to be:

Dr. Jno. A. Witherspoon, Chief Consulting Physician.

Dr. G. C. Savage, Consulting Physician (Eye, Ear, Nose and Throat).

Dr. W. A. Bryan, Surgeon-in-Chief.

Dr. William Litterer, Pathologist-in-Chief.

Dr. O. N. Bryan, Visiting Physician.

Dr. C. A. Robertson, Medical Director.

Mr. Jas. A. Yowell, Secretary-Treasurer.

The situation for this new and much needed institution in our state, is an ideal one and the incorporators are to be congratulated upon its selection. They have expended considerable money in bringing it to an up-to-date, well-equipped modern institution and we wish for them every possible success.

NEW BIOLOGICAL LABORATORY.

A handsome new building has recently been added to the group of biological laboratories of H. K. Mulford Company, at Glenolden, Pa.

The building is constructed entirely from basement to roof of hollow tile and concrete, making it a fireproof structure throughout.

It is divided into departments, each department being a unit, and complete in itself. The east end of the building is devoted to the handling of serum and globulin products. On the first floor bleedings are received from the bleeding room, serum or plasma is removed from the clot or from the corpuscles, as the case may be, and the product stored immediately in cold-storage rooms belonging to this group.

When the serum or globulin has been tested and is ready to be finished, it is delivered to the group of antitoxin and serum filling rooms. The

bulk stock is kept in cold-storage rooms connected with this group. Immediately adjoining the twenty filling rooms is the labeling and packing rooms for serum and globulin products. This group also has its own cold-storage rooms. Elevators at each end of the building convey the completed packages to the shipping rooms. After inspection and checking off against a duplicate set of records shipments are made.

Each of the twenty filling and serum rooms is supplied with washed and filtered air. The special apparatus used for this purpose is guaranteed to remove 98 per cent of suspended matter from the air supplied to these rooms. Not only is the air filtered but its humidity and temperature are controlled, thus giving the employes the benefit of the best possible working conditions.

On each floor glass partitions between the halls and rooms permit the demonstration of the work to visitors without their entering the rooms themselves.

The laboratory floors are of asbestolith. The advantage of this material is that there are no seams or cracks and is impervious to fluids. It partakes more of the nature of wood than of cement and because of a cushiony layer beneath the surface crust, is more acceptable to employes than cement floors.

On the lower floor are the stock rooms. The sterilizing rooms are in a separate building well supplied with ventilating sky-lights.

On the third floor are found the lecture room, library and museum.

The entire plant is arranged and managed under the unit system. A separate building or group of buildings, or in some cases portions of larger buildings, are devoted to the preparation, standardization, packing and shipping of each product. Each unit is in charge of scientific experts in their particular branch of bacteriology. Cold-storage rooms supplied with cold air from a central refrigeration plant form part of each individual unit arrangement. This makes it possible to keep on hand a large stock of biologicals without danger of deterioration, so that the company is prepared at all times to supply these products and to cope with the enormous demands often created by epidemics of the various infectious diseases.

COUNTY SOCIETY PROCEEDINGS.

GILES COUNTY.

The Giles County Medical Society met in regular session on December 20th, 1912.

Dr. J. P. May read a most excellent essay on "Tuberculosis of the Lymphatics."

The following officers were elected for the year 1913: President, Dr. R. E. Aymett; Vice-president, Dr. Jas. K. Blackburn; Secretary, Dr. Jas. A. LaRue; Treasurer, Dr. Geo. D. Butler; Board of Censors, Drs. C. A. Abernathy, E. R. Sumpter, and E. C. Freeman.

We start the new year with united strength and hope to accomplish greater results in the year 1913, than in the past.

JAS. A. LARUE, *Secretary*.

BEDFORD COUNTY.

The Bedford County Medical Society met in regular session on December 19th, 1912, and was called to order by the President, Dr. W. G. Frierson. The following members were present; Drs. W. G. Moody, S. S. Moody, E. W. Patton, W. G. Frierson, J. P. Taylor, T. R. Ray, T. H. Wood, T. J. Coble, W. T. Sharp, J. K. Freeman, W. M. Orr, W. T. Robinson, and F. B. Reagor. Dr. Frierson, Chairman of the Committee of Arrangements for the recent meeting of the Middle Tennessee Medical Association gave his report which was approved. Dr. Frierson, also Councilor of this District for the State Association, gave a report of the recent meeting of the Judicial Councilors and officials of the State Association, held in Nashville, looking to a more thorough organization of all the physicians of the state to the end that every eligible physician become a member of the state and county societies. Dr. Frierson brought us a request from the councilors and officials meeting, that every member of our society make it a point to see our representatives in the coming legislature and urge them to support all bills recommended. It was moved and unanimously carried, that the President of our Society appoint a committee of three members to draft a copy of all bills looking to medical legislation and health matters, which have been recommended by the Committee on Public Policy and Legislation, with a petition to our representa-

tives to support them and urge their passage, and then to get the signature of every physician in Bedford County and our Senatorial District, to be presented to our representatives of the Legislature.

Dr. Frierson presented the annual address of the President of the Society, his subject being "Antiseptics," which was a very interesting and instructive address and received a vote of thanks.

The following officers were elected to serve for the year 1913: President, Dr. T. H. Wood; Vice-president, Dr. W. T. Robinson; Secretary-Treasurer, Dr. F. B. Reagor. Dr. J. K. Freeman was elected censor for three years. Board of Censors are as follows: Drs. T. J. Coble, G. W. Moody, and J. K. Freeman. Dr. E. W. Patton was elected Delegate to State Association for the 1913 meeting and Dr. J. P. Taylor, Alternate.

The Essay Committee gave the following program for the next six months:

January 16, 1913—Treatment of Pneumonia and Its Complications, by Drs. G. W. Moody and G. E. Horton.

Influenza, by Drs. Jas. L. Morton and R. E. Shelton.

February 20, 1913—Palliative Treatment of Uterine Displacements, by Drs. J. P. Taylor, and G. L. Landis.

Uremia, by Drs. W. T. Robinson and W. S. Pyatt.

March 20, 1913—Differential Diagnosis of Acute Infectious Diseases of Children, by Drs. W. G. Frierson and G. C. Haggard.

Prevention and Treatment of Abortion, by Drs. T. R. Ray and J. K. Freeman.

April 17th, 1913—Early Diagnosis and Treatment of Tuberculosis, by Drs. F. B. Reagor and C. A. Sunstrom.

Differential Diagnosis of Dislocation and Fracture of Elbow, by Drs. S. S. Moody and J. H. Dyer.

May 15, 1913—Differential Diagnosis of Cardio Vascular Lesions, by Drs. T. H. Wood and W. M. Orr.

Surgical Shock, by Drs. T. J. Coble and W. T. Sharp.

June 19th, 1913—Dysentery, by Drs. E. W. Patton and M. A. L. Enoch.

Serum Therapy, by Drs. C. E. Horton and W. G. Frierson.

F. B. REAGOR, M. D., *Secretary*.

SMITH COUNTY.

The Smith County Medical Society met in regular session in Dr. Frank Swope's office, Carthage, Tenn., December 6, 1912, with quite a number of the members in attendance.

After the routine business the Secretary-Treasurer made his annual report which was approved.

The society then proceeded to elect officers for the year 1913, which resulted as follows:

President, Dr. C. H. Donoho, of Carthage; Vice-President, Dr. I. H. Beasley, of Dixon Springs; Secretary-Treasurer, Dr. B. J. High, of Elmwood.

In the afternoon we had several interesting clinical reports that were generally and liberally discussed.

Dr. J. S. Campbell, of Gordonsville, Tenn., read an excellent essay on "Gonorrhea in the Female."

The doctor proved himself equal to the occasion and clearly demonstrated his ability to handle the trouble.

A general discussion followed.

A committee of three was appointed by our President-elect to communicate with that part of the medical profession of Smith County who do not affiliate with the society and try to impress upon them the importance of affiliation and society work.

B. J. HIGH, *Secretary*.

ROBERTSON COUNTY.

The sixth bi-monthly meeting of the Robertson County Medical Society was held in Springfield, Tenn., November 19th, 1912. The greater part of the day was given to a discussion of the scale of fees that had been recommended for approval or rejection by the society at this meeting; after a free discussion, the scale was recommended by a vote of 6 to 5; the proposition to regulate the fees in the practice of medicine in Robertson County was virtually lost by this vote, because a representative vote was not cast, and those who did not vote, or in other words, did

not attend the meeting would not consider themselves bound to abide by the result of the election. The Post Graduate Study Course as recommended by the American Medical Association was adopted for the use of the society for next year. After the President's address, the society proceeded to the election of officers for the year 1913, as follows: President, Dr. D. E. Davis, Springfield; Vice-president, Dr. J. S. Freeman, Springfield; Secretary-Treasurer, Dr. John R. Green, Springfield. Beginning in January, the meetings of the society will be held on the third Tuesday in every month, and will be conducted by directors that will be chosen at every meeting for the next meeting.

B. F. FYKE, *Secretary*.

WHITE COUNTY.

The White County Medical Association met December 12, with eleven members present, a good meeting was held.

Dr. W. L. Brock read an interesting paper on "Puerperal Eclampsia" which was thoroughly discussed by all the members present.

Our members paid their dues for 1913, and elected the following officers:

Dr. A. A. Bradley, of Eastland, was elected President.

Dr. S. E. Gaines, of Sparta, was elected Vice-president.

Dr. A. F. Richards, of Sparta, was elected Secretary.

Dr. W. J. Breeding, of Ravenscroft, was elected Censor for three years.

Dr. R. E. Lee Smith, of Doyle, was elected delegate to the State Society, and Dr. W. M. Johnson, of Bon Air, Alternate.

Dr. W. J. Breeding, of Ravenscroft, was appointed to read a paper in January.

A. F. RICHARDS, *Secretary*.

RUTHERFORD COUNTY.

The Rutherford County Medical Society met in the office of Dr. E. H. Jones in Murfreesboro, January 1st, at 2:00 o'clock.

The subject of Meningitis was discussed by the members present.

Announcement was made that the fiscal year of the State Medical Association had been changed to correspond with the calendar year and that the dues for the year 1913 are now due.

The doctors in attendance at this meeting were Drs. I. W. Read, M. B. Murfree, Rufus Pitts, A. E. Goodloe, B. N. White, A. J. Jamison, V. S. Campbell, J. T. Harris and J. C. Overall. Dr. E. H. Jones being called away just before the meeting was called to order.

The society, at this meeting, elected the following officers to serve for the ensuing year: President, Dr. B. N. White; Vice-president, Dr. J. C. Overall; Secretary and Treasurer, Dr. Rufus Pitts (re-elected); Assistant Secretary, Dr. A. E. Goodloe (re-elected); Delegate to the next meeting of the State Medical Association, Dr. M. B. Murfree; with Dr. A. J. Jamison, delegate alternate; Censor, Dr. R. W. Read.

Very truly,

RUFUS PITTS, *Secretary*,
Rutherford County Medical Society.

ROANE COUNTY.

The Roane County Medical Society met in regular session, in the parlors of Cumberland Hotel, Harriman, on December 16, at 1:00 p. m., Dr. G. P. Zirkle, presiding. Those present were, Drs. Zirkle and Roberts, of Kingston; Drs. Sewell and J. M. Clack, of Rockwood; Dr. Waller, of Oliver Springs; Drs. Givan, Goodwin, Carr, and Hill, of Harriman.

Several interesting clinical cases were reported and pretty generally discussed by members present. The principal feature of the program was a symposium on The Automobile—its Practicability to the Physician.

The following officers were elected for 1913: Dr. G. C. G. Givan, President; Dr. J. J. Waller, Vice-president; Dr. W. W. Hill, Secretary; Dr. J. A. Sewell, Treasurer; Dr. J. M. Clack, Censor; Dr. J. B. Goodwin, Representative to State Society; Dr. W. W. Hill, Alternate.

The society passed a resolution endorsing the work of State Board of Health in its efforts to eradicate the hookworm, and recommended an appropriation by County Court to assist in this work in Roane County.

W. W. HILL, *Secretary*.

DYER COUNTY MEDICAL SOCIETY.

The Dyer County Medical Society met at the court house on December the 31st, 1912, this being a few days before the regular meeting, it was called on account of the epidemic of meningitis in this county. A great many false rumors had gone out and at this meeting the names of the physicians were called, asking them to give a correct number of cases they had had up until the present time with the following report:

Dyersburg nineteen cases with eleven deaths, Mengelwood seventeen cases with eleven deaths, rural districts twenty cases with twelve deaths, making a total number of cases fifty-six; total number of deaths thirty-four. At this meeting our legislative committee was instructed to call upon Mr. S. H. Williams, Senator-Elect and Mr. John M. Drane, Representative, and to instruct them to vote for the vital statistics and also to vote for an amendment to the act providing for City Boards of Health for towns coming under five thousand inhabitants and also instructing them to support any and all bills recommended by the Committee on Legislation representing our State Association.

O. DULANEY, *Secretary*.

WASHINGTON COUNTY.

The Washington County Medical Society held its regular meeting January 2nd, 1913, with the following members in attendance: Drs. West, Long, Sells, Matthews, Kennedy, H. D. Miller and Cox.

The following officers for 1913 were elected: President, Dr. H. D. Miller; Vice-president, Dr. J. H. Arnold; Secretary-Treasurer, Dr. J. W. Cox; Censors, Drs. E. A. Long, E. T. West, and G. J. Sells.

Under clinical cases the former case, reported by Dr. Randall, on supposed duodenal ulcer, was continued and Dr. Randall reported that operation had been performed and diagnosis verified and patient doing well.

Dr. Long was the essayist for the evening, and he presented a most interesting paper on "Herpes Zoster." The doctor entered into the causative factors at length, and enumerated several important ones, especially the impaired nutrition of the trunks and ganglions of nerves,

producing malnutrition of the skin at the terminals of same. Various causes were mentioned, such as rheumatism, malaria, and traumatism, and in some instances diatetic. The doctor's experience was far from satisfactory in the very old cases which had come under his observation, all with a fatal tendency. The treatment suggested was largely symptomatic.

The paper was well written and very extensively discussed by all members present. The new president, Dr. H. D. Miller, entered upon his duties for the year with vigor and his work, we feel, will be very effective.

The essayist for the next meeting, February 6th, is Dr. H. D. Miller, subject, "The Responsibility of the Profession in Combating Tuberculosis."

J. W. Cox, *Secretary*.

SUGGESTION AND SUICIDE.

That the suggestive effect of reading details of suicides is a powerful factor in the causation of suicide among susceptible persons is recognized. The suggestion is more likely to have influence when in the account of the suicide some poisonous article commonly found in households, such as phenol, Lysol and Rough on Rats, is named as the agent employed by the suicide. In New South Wales newspapers have been asked by the pharmaceutical board not to publish the names of poisons used by suicides. In several instances leading newspapers have heeded this request, particularly in connection with Lysol poisoning cases, which are numerous in all the states of the commonwealth. The American Medical Association, in 1910, adopted resolutions to the effect that the publication of details of suicides in newspapers is one of the potent causes of other suicides through suggestion, and it was recommended to the public press that the details of suicides be omitted from publication. While it is the consensus of opinion that the publication of details of suicides does promote further similar acts, the newspapers assert that it is their duty to publish the news. In adopting this attitude, says *The Journal of the American Medical Association*, the newspapers are assuming a serious responsibility. A definite and strong expression of public opinion against this practice would no doubt have a better effect even than legal enactments.

DEPARTMENT OF ABSTRACTS AND BOOK REVIEWS

JOS. F. GALLAGHER, M.D., Review Editor

Assisted by Drs. O. N. BRYAN, R. W. BILLINGTON, E. B. CAYCE, H. M. TIGERT, JACK WITHERSPOON AND A. G. NICHOL

SURGERY, GYNECOLOGY AND OBSTETRICS, DECEMBER, 1912.

Cancer of the Oesophagus from the Standpoint of Intrathoracic Surgery; A Report of Four Resections. Willy Meyer, M.D., New York City.

Circular Resection and Suture of the Axillary Artery for Transverse Laceration by Fracture-Dislocation of Anatomical Neck of the Humerus. J. J. Buchanan, M.D., Pittsburgh.

Multiple Myeloma. T. W. Stumm, M.D., St. Paul, Minn.

A Method of Controlling Post-Partum Hemorrhage by Manual Compression of the Abdominal Aorta; Abdominal Section for Placenta Previa. Edward P. Davis, M.D., Philadelphia.

Hypernephroma of the Kidney; Report of Three Cases. I. S. Stone, M.D., Washington.

Myoma of the Cervix Uteri. M. Robinovitz, M.D., New York City.

A Malformation of the Fallopian Tube. O. B. Huffman, M. D., New York City.

*Haemolytic Streptococcus and Puerperal Septicaemia; A Bacteriological Study of One Hundred and Three Labor Cases, with Reference to Prognosis, Prophylaxis and Specific Therapy. W. J. Walton, M.D. and Leon S. Medalia, M.D., Boston.

Oponins and Vaccines in Puerperal Sepsis. L. S. Medalia, M.D., and W. J. Walton, M.D., Boston.

Results of Experiments on Kidneys with Especial Reference to Decapsulation and Establishment of Collateral Circulation. E. H. Siter, M.D., Philadelphia.

Sterility in the Female Without Gross Pathology, and the Report of Thirty-Five Cases. Chas. C. Norris, M.D., Philadelphia.

Department of Technic.

Observations on the Use of Intratracheal Anæsthesia in Experimental Work: With a Description of a Simple and Inexpensive Apparatus. A. B. Eisenberg, M.D. Philadelphia.

The Finger in Rhinoplasty—Improved Technic. J. F. Baldwin, M.D., Columbus, Ohio.

Notes on Ether Administration. Weller Van Hook, A.B., M.D., Chicago.

The Uselessness of Warming Anæsthetic Vapors. F. J. Cotton, M.D., and W. M. Boothby, M.D., Boston.

A Note on Picric Acid and Oil of Cloves Preparation of Catgut. C. A. Roeder, Grand Island, Neb.

The Diagnosis of Uteral Calculus by Means of the Wax-Tipped Whalebone Filiform Bougie with the Nitze Cystoscope. Burton Harris, M.D., Brooklyn, N.Y.

Some Genito-Urinary Surgery Recently Done in Vienna and Berlin. C. E. Barnett, M.D., Fort Wayne, Ind.

The Bottle Operation for Hydrocele of the Tunica Vaginalis; Ten Cases—Three Failures. H. H. M. Ly'e, New York City.

Special Long Thumb Forceps for Abdominal Work. J. D. Singley, M.D., Pittsburgh.

*"This research comprises a systematic bacteriological study of one hundred and three consecutive labor cases ante and post-partum, with special reference to the presence or absence of hæmolytic streptococci in the posterior cul-de-sac, cervix and blood circulation, as determined by the blood-agar method." (Schottmuller.) After an exhaustive review

of the literature and a detailed account of the methods and results obtained, the authors have come to the following conclusions:

1. The streptococci, both hæmolytic and nonhæmolytic, are present in the parturient canal during pregnancy before any digital examination has been made as far as could be ascertained.

2. The presence of the hæmolytic streptococcus ante-partum is the exception and not the rule.

3. Nonhæmolytic streptococci are twenty times as frequent as hæmolytic streptococci in the secretions of the pregnant.

4. Hæmolytic streptococci are found in afebrile as well as in the febrile parturient cases.

5. Nonhæmolytic streptococci are found in febrile as well as afebrile post-partum cases.

6. The frequency of positive findings post-partum of the non-hæmolytic is far above that of the hæmolytic type, being twice as many (17 to 9).

7. Schottmuller's blood-agar method is of practical value in detecting the hæmolytic property of the streptococcus.

8. The hæmolytic property is a characteristic of one type of the streptococcus.

9. Hæmolysis as applied to the streptococcus does not determine the question of virulence or avirulence of this organism. Other tests will have to be found to establish the virulence or avirulence of a given streptococcus.

10. The routine bacteriological examination early post-partum is practical and important from the standpoint of prophylaxis, diagnosis, prognosis and treatment.

11. The clinical symptoms alone are not sufficient to establish a diagnosis of puerperal septicaemia. The bacteriological examination is necessary to definitely establish diagnosis.

12. The finding of the streptococcus, hæmolytic, or non-hæmolytic, in febrile or afebrile cases, would indicate prompt isolation of the case to prevent the spread of infection in maternity hospitals.

13. We have to recognize "healthy carriers" and "unsuspected carriers" of puerperal infection.

14. The finding of hæmolytic or nonhæmolytic streptococci in the secretion in febrile cases post-partum suggests the possibility of grave infection.

15. The finding of hæmolytic streptococci in the blood is, according to most observers, synonymous with a fatal issue.

16. Hæmolytic or nonhæmolytic streptococci causing morbidity are not necessarily of exogenous origin.

17. Auto-infection plays an equal role with exogenous infection as to frequency of sepsis, but not as to its severity.

18. Extragenital infections with faulty personal hygiene on the part of the patient will increase the possibility of auto-infection during the puerperium.

J. F. GALLAGHER, M.D.

BOSTON MEDICAL AND SURGICAL JOURNAL, DECEMBER 5, 1912. VOL. 167, No. 23.

Heredity: With Special Reference to Law of Gregor Johann Mendel, O.S.A. By J. M. Connolly, M.D.

Teeth and Their Relation to the Body. G. H. Wright.

*Treatment of Pulmonary Tuberculosis by Artificial Pneumothorax; Report of Twenty-One Cases (to be continued). G. M. Balboni, M.D.

Blood in Case of Severe Hemorrhage. J. E. Ash.
Fatal Endocarditis Due to Copulated Gram-Staining Diplococcus, Occurring in Chains. W. H. Smith, M.D.

DECEMBER 12, 1912. VOL. 167, No. 24.

†Alimentary Aberrations; Roentgen Rays as a Factor in Their Diagnosis (to be continued). P. Brown, M.D.

Prevention of Water-Borne Disease in Lake and River Traffic. A. J. McLaughlin, M.D.

Arteriosclerosis Probably Not an Important Factor in Etiology and Prognosis of Involution Psychoses. G. L. Walton, M.D.

- Heredity: Special Reference to Law of Gregor Johann Mendel, OS.A. J. M. Connolly, M.D.
 *Treatment of Pulmonary Tuberculosis by Artificial Pneumothorax, According to the Method of Forlanini, B. M. Balboni, M.D.

DECEMBER 19, 1912. VOL. 167, No. 25.

- Scholarship in Medicine. F. C. Shattuck, M.D.
 Chronic Alveolar Osteomyelitis (Pyorrhoea Alveolaris). Its Causes and Treatment with Vaccines. L. S. Medaia, M.D.
 Insanity of Feeble-Minded. W. N. Bullard, M.D.
 †Alimentary Aberrations; Roentgen Rays as a Factor in Diagnosis. P. Brown.
 *Treatment of Pulmonary Tuberculosis by Artificial Pneumothorax, According to the Method of Forlanini. G. M. Balboni, M.D.

*Balboni is convinced, after eighteen months' experience, that this treatment has a place in the management of advanced cases of pulmonary tuberculosis. These good results make it a moral obligation to try it in these cases which can be promised so little by other methods. He hopes that it will be applied oftener and earlier in cases which show progressive and destructive tendencies.

†Brown summarizes his two papers as follows: We have today, in the alimentary application of X-Rays as dependable a method of aiding our diagnostic knowledge as has been given us for many years. Nevertheless, in this method we have but a factor making for our success in any given case. The practitioner of the future is in danger, through such helpful agents, of becoming a clinical scientist instead of a scientific clinician. His primary mission is still entered on at the bedside, and at the bedside he has little else to aid him than had his early predecessors—his five wits. Let him, therefore, use them, and then he shall be able to stretch forth his hand toward the laboratory, not hesecingly, as one who is helpless, but with the authority born of knowledge, as becomes a master.
 R. W. BILLINGTON, M.D.

THE OPHTHALMIC RECORD, NOVEMBER, 1912.

Original Articles.

- *Case of Juvenile Form of Family Amaurotic Idiocy. A. Gifford, M.D., Omaha, Neb.
 Modification of Prince Advancement Forceps. Frank Allport, M.D., Chicago, Ill.

Society Reports.

- British Medical Association Section of Ophthalmology, Liverpool, July 24, 1912.
 Medical Society of State of Pennsylvania, Ophthalmic Section.

Editorial.

The Decrease in Income of Specialists in Medicine.

*This article contains a review of the literature on this subject, and offers some very interesting case reports.
 "The question of how much of the blindness in juvenile family Amaurotic idiocy is cerebral, is difficult to answer."
 "Syphilis apparently plays no part essentially in the etiology, although it may incidentally have influenced some of the cases."
 E. B. CAYCE.

OPHTHALMIC RECORD, DECEMBER, 1912.

Original Articles.

- A Study in Dextrophia. Francis Valh, M.D., New York City.
 Report of a Case of Steel Passing through the Eyeball into Orbit. Edward E. Kaider, M.D., Oelwein, Iowa.
 The Technique of Advancement. Prof. Dr. A. Elsdening, Prog. Trans. by Harry S. Gradle, M.D., Chicago.
 *Trachoma and the Surgical Treatment. L. Webster Fox, M.D., Philadelphia, Pa.

- A Pupillary Disc for the Correction of Spheric Aberration. Albert B. Mason, Atlanta, Ga.
 A Case of Macular Hole Due to Traumatism. Eugene M. Blake, M.D., New Haven, Conn.
 A Case of Retro-Bulbar Neuritis of Toxemic Origin. Frank Allport, Chicago.
 Migratory Ophthalmia Followed by Recovery of Useful Vision. W. A. Fisher, M.D., Chicago.

Reports of Societies.

- Philadelphia Polyclinic Ophthalmic Society.
 Colorado Ophthalmological Society.
 Wills Hospital Ophthalmic Society.
 The Royal Society of Medicine, Ophthalmic Section.
 College of Physicians of Philadelphia, Ophthalmic Section.

Course on Ophthalmology in the University of Colorado.

*The particular point of this paper is to describe the Geatage operation. The writer recommends two instruments especially devised for the operation, forceps and scarificator.

E. B. CAYCE.

THE AMERICAN JOURNAL OF MEDICAL SCIENCES, DECEMBER, 1912.

- Partial Gastrectomy in a Case of Multiple Carcinoma of the Stomach. By John H. Gibbon, M.D.
 The Effects of Medicinal Doses of Aconite upon the Pulse Rate. By R. D. Rydolf, M.D., F.R.C.P., and C. E. C. Cole, B.A., M.B.
 Lupus Erythematosus and Raynaud's Disease. By M. B. Hartzell, M.D., L.L.D.
 Some Features of the Gross Anatomy of the Spinal Cord and Nerve Root, and Their Bearing on the Symptomatology and Surgical Treatment of Spinal Disease. By Charles A. Elsberg, M.D.
 Bence-Jones Proteinuria: A Report of Four Cases, with Some Chemical and Biological Notes. By Thos. R. Boggs, M.D., and C. G. Guthrie, M.D.
 *Further Experiences with the Complement-Fixation Test in a Diagnosis of Gonococcus Infections of the Genito-Urinary Tract in the Male and Female. By Hans J. Schwartz, M.D., and Archibald McNeil, M.D.
 Indicanuria. By William Gerry Morgan, M.D.
 Adenocarcinoma of the Thyroid, with Metastasis to the Cervical Glands and Pituitary: A Contribution to the Pathology of Abnormal Fat Formation. By D. J. McCarthy, M.D., and Howard T. Karsner, M.D.
 Softening of the Spinal Cord in a Syphilitic after an Injection of Salvarsan. By Leo Newmark, M.D.
 Banti's Disease and Allied Conditions. By Richard Stein, M.D.
 Cases of Juvenile Psychasthenia: To Illustrate Successful Treatment. By Tom A. Williams, M.B., C.M.
 The Incidents of Purpura in the Course of Chronic Pulmonary Tuberculosis. By John M. Cruice, A.B., M.D.

*Schwartz and McNeil showed that the secret of success lay in the use of a polyvalent antigen on account of the many different strains that were to be dealt with. This test is shown to be especially of value in differentiating chronic troubles due to gonococcus and similar conditions due to other causes, and is also of great value in deciding whether a patient is free from gonorrheal infection, inasmuch as this fixation test is positive in cases where other means of diagnosis fail. They found the positive reaction to be specific for the gonococcus with the sole exception of meningococcus infection. These positive results in meningococcus infection were obtained when using a highly immune anti-meningococcus serum. Later they tested the serum of several patients suffering from cerebro-spinal meningitis with uniformly negative results.

In this test they claim to have a true antigen antibody combination, inasmuch as the antigen is prepared from the specific infecting organism of the disease in question, while in the Wassermann we do not have the true antigen antibody combination. There is no medication that obscures this test in gonococcus infection. A positive reaction is not to be expected earlier than about the fourth week, and then only

in acute cases with some complication such as acute prostatitis, gonococcus arthritis, etc. They are rather uncertain as to how long the test remains positive after cured, but are sure that they do not persist indefinitely. They think a negative reaction should be obtained seven or eight weeks after a cure. There is no doubt that this complement fixation test is simpler, more certain and easier than the bacteriological methods of examination for gonococcus, still they think both methods of diagnosis should be used. The fact that a positive reaction is not obtained in the early weeks of infection should prove an aid in differentiating a fresh infection and the recurrence of an old and apparently cured one. They think this test would be of much value in chronic gonorrheal infection in women. A negative reaction will probably be obtained if the infection is limited to the urethra, Skene's gland, and Bartholin's glands. Such cases are doubtless rare, as most cases have an involvement of the cervix.

Their conclusions are as follows:

1. A positive reaction denotes the presence or recent activity in the body of a focus of living gonococci.
2. A negative reaction does not exclude gonococcus infection, but for the reasons stated should be accorded considerable importance.
3. A strong positive reaction is not to be expected earlier than about the fourth week, and then only in very acute cases with some complication.
4. A positive reaction is not obtained if the disease is limited to the anterior urethra.
5. A positive reaction does not entirely disappear until seven or eight weeks after cure.
6. In other words, if a strong positive reaction is obtained seven or eight weeks after apparent clinical cure, the patient should be looked upon as still harboring gonococci.
7. In chronic cases isolation of the gonococcus in culture is the only absolute bacteriological proof of gonococcus infection.
8. The technique of complement fixation test is simpler than that of isolation of the gonococcus in culture and the possibilities of error are less.
9. In cases regarded clinically as postgonorrheal, a positive reaction is obtained in 31.4 per cent.
10. In 62 cases of chronic prostatitis giving a history of gonococcus infection within three years, a positive reaction was obtained in 54.8 per cent.
11. In 165 cases looked upon as clinically cured for at least three months, a positive reaction was obtained in 13.2 per cent.
12. In women a positive reaction is probably not obtained unless there is at least some involvement of the cervix.
13. On account of the unreliability of the bacteriological diagnosis of gonococcus infection in women, the complement fixation test should prove of special usefulness in gynecological conditions.

O. N. BRYAN.

JOURNAL OF THE A. M. A., NOVEMBER 30, 1912.

- Arteriosclerosis. Thomas D. Coleman, A.M., M.D.
 The Menace to the Young Child of the Common Infectious Cold. T. S. Southworth.
 The Occurrence and Etiology of Club Foot. Albert Ehrenfried, M.D.
 The Value of the Social Service Department to the Children's Dispensary. Maurice Ostheimer, M.D.
 The Injection of Rhesus Monkeys with Blood from Patients with "Rheumatic Fever." Oscar M. Schloss, M.D.
 The Value of Serial Radiography in Gastro-Intestinal Diagnosis. L. G. Cole.
 The Origin of Tube Casts. H. B. Erdman, M.D.
 The Present Standing of the Operation of Litholapaxy. A. T. Cabot, A.M., M.D.
 Suprapubic Cystotomy for Vesical Calculus, Indications and Operative Procedure. W. E. Lower, M.D.
 Seminal Vesiculotomy; Its Purpose and Accomplishments. Eugene Fuller, M.D.
 Death and Blindness from Methyl or Wood Alcohol Poisoning with Means of Prevention. Casey A. Wood, M.D.
 A Plea for Longer Intervals in Milk Feeding. Julius H. Comroe, A.M., M.D.

JOURNAL OF THE A. M. A., DECEMBER 7, 1912.

- *Clinical Features of Sudden Obstruction of the Coronary Arteries. J. B. Herrick.
 Laws Relative to Sanitary Control of Public Eating and Drinking Places. W. F. Dutton.

The Control of Contagious Diseases in a Municipality. G. F. Kiefer.

Procedure in Quarantine Practice. J. W. Kerr.

Pleural Vomice. With Analysis of Sixteen Cases. E. Smith.

Prognathism. With Operative Treatment. W. H. Harsha.

Blennorrhagic Keratosis. B. H. Roark.

Exophthalmos in Scurvy. L. R. DeBuys.

Occupational Skin Diseases. J. A. Fordyce.

Occupational Eye Diseases and Accidents. M. D. Stevenson.

Some Types of Urethral Obstruction in Women. H. D. Furniss.

A Case of Suspected Blastomycosis. J. H. Snoke and E. J. Strick.

The Relative Value of Natural and Synthetic Salicylates. A Study of the Literature. Cary Eggleston.

A Method of Continuous Dilatation of Extensive Urethral Stricture. J. R. Eastman.

Fat Embolism from Chronic Osteomyelitis. Merton Field.

New Mastoid Chisels. Frank Allport.

*Obstruction to the Coronary artery or any of its large branches has long been regarded as a serious accident. Conheim, Henle, and Hyrtle held that these were end arteries and their teaching has been generally accepted. But there are reasons for believing that even large branches of the Coronary artery may be occluded—at times acutely occluded without resulting death; at least death in the immediate future. By injection and skiagraph investigators find remarkably rich blood supply of the heart and anastomosis even between large vessels. Experimentally some of the dogs lived several weeks after large branches were ligated.

Osler refers to the fact that patients may live some time after obstruction.

The cases are grouped in four classes:

1. Sudden death, instantaneous and painless.
2. Anginal attack, pain, severe respiratory agony, and death immediately.
3. Non-fatal cases with anginal attack slight; precordial stich and later at autopsy find patchy fibrosis of the myocardium.
4. Symptoms severe and recognized as cardiac, but not fatal.

In all cases of author patients were over fifty years of age. Osler recognized anginal attack as probably associated with infarct of the ventricle "as a pericardial rub was detected next day." Suggests timely use of digitalis.

JACK WITHERSPOON.

JOURNAL OF THE A. M. A., DECEMBER 14, 1912.

*Visceral Organisms. Alexis Carrel, M.D.

A Study of the Causes of Death in One Hundred Patients with High Blood Pressure. Theodore C. Janeway, M.D.

Duodenal Medication of Ipecac in the Treatment of Amebic Dysentery. Harvey G. Beck, M.D.

Recent Hygienic Improvements in Dairying. R. C. Newton, M.D.

A Study of Saliva and Its Action on Tooth Enamel in Reference to Its Hardening and Softening. Joseph Head, M.D., D.D.S.

A Clinicopathic Study of Carbon Monoxid Poisoning. J. W. McConnell, M.D., and W. G. Spiller, M.D.

†Safety Razor Blade Scalpel. J. B. Murphy, A.B., M.D., LL.D.

Cleft Palate Needle-Holder. George M. Todd.

Averages in Attitude and Trunk Development in Women and Their Relation to Pain. R. L. Dickinson, M.D., and Walter Truslow, M.D.

After-Results in Tuberculous Patients Treated During the Years 1891-1911 at Sharon Sanatorium. Vincent Y. Bowditch, M.D., and Walter Griffin, M.D.

The Etiology of Beriberi. Carl Lovelace, M.D.

A Further Study of the End-Results of the Conserved Ovary. J. O. Polak, M.Sc., M.D.

Heredity in Nervous Disease and Its Social Bearings. C. B. Davenport, M.D.

- Adams-Stokes Disease. Phillip Frank, M.D., B.Sc.
Prevalence of the Heroin Habit. Especially in the Use of the Drug by "Snuffing."
Demonstration of the Greater Susceptibility to Heat of Sarcoma Cells as Compared with Actively Proliferating Connective Tissue Cells. R. A. Lambert, M.D.
Prima Dermatitis. Its Occurrence in Rural Districts. H. A. Sharpe, M.D.
Note on a New Method of Suturing Blood Vessels. J. S. Horseley, M.D.
Report of Death from Unrecognized Duodenal Ulcer Following Operation for Cholecystitis. E. Gard Edwards, M.D.

*Alexis Carrel develops a technic by which systems of organs may be made to live "in vitro." He removes aseptically "en masse" heart, lungs, liver, stomach, part of the intestines, pancreas, adrenal, kidney and spleen of an animal (cat). Keeps mass in incubator at 100.4 F. while the lungs are artificially ventilated, interrupted ten times per minute. Heart pulsates; digestion of food occurs; bile is thrown into the intestine and intestine empties itself through artificial anus. After four to six hours peritonitis develops progressively, and often ten to twelve hours heart gets irregular and stops suddenly.

†John B. Murphy suggests that sometimes surgeons are annoyed by dull scalpels. He solves the problem by inventing a special handle to utilize safety razor blades. He uses these scalpels in all his work, and finds them serviceable and satisfactory. JACK WITHERSPOON.

JOURNAL OF THE A. M. A., DECEMBER 28, 1912.

- *Diagnostic Pitfalls Identified During the Study of 3,000 Autopsies. Richard C. Cabot.
Pathologic Lesions of the Kidney Associated with Double Ureters. A. R. Stevens.
†An Overlooked Function of Bartholin's and Cowper's Glands. D. T. Smith.
Effect on Later Development of Severe and Prolonged Illness in Infancy. T. D. Parke and John H. Edmondson.
The Caloric Requirement of Bottle-Fed Infants. R. H. Dennett.
‡Moving Picture Illustrations in Medicine, with Special Reference to Nervous and Mental Diseases. T. H. Weisenburg.
Possible Transmission of Poliomyelitis through the Dog. H. F. Banghorst.

*Dr. R. C. Cabot, of Boston, gives us another paper on "Diagnostic Pitfalls." Like its predecessor, it is based on autopsies, and these findings compared with the history and diagnosis made on the patient in life.

Acute gastritis, he says, is a rare disease in adult life. As a rule appendicitis or gallstones is the correct diagnosis.

Chronic indigestion is usually a mistaken diagnosis, the actual condition being peptic ulcer, pulmonary tuberculosis, constipation, or cancer of the colon.

Bronchitis usually proves to be phthisis, bronchiectasis or broncho-pneumonia at autopsy or in the outcome.

In characteristic manner he gives a table showing "per cent of diagnostic success." Diabetes mellitus, 95 per cent to acute nephritis, 16 per cent, and between these are lobar pneumonia, 74 per cent; gastric cancer, 72 per cent; peptic ulcer, 36 per cent; hepatic cirrhosis, 39 per cent; and many others.

Dr. Charles G. Stockton, of Buffalo, said in discussion: "Two years ago, in St. Louis, Dr. Cabot delivered an address which I think was epoch-making in diagnosis in internal medicine. I have made it a practice to reread that address each year, and I commend that practice to my fellows here."

†Dr. Smith calls attention to an unnoted function of Bartholin's and Cowper's glands. Besides the recognized functions of these glands, lubrication, he holds that a contraction takes place in the walls of this gland immediately after passage of urine, which forces out a mucus to protect the part from the irritating effect of the urine.

‡T. H. Weisenburg, M.D., with the help of Mr. Sigmund Lubin, of Philadelphia, has produced about ten thousand feet of film of motion pictures of various diseases to which this specialty lends itself. Chiefly nervous and mental diseases, he shows gaits, tremors, convulsions, and various kinds of tics and spasms. He learned a great deal about epilepsy

from these pictures and advocates a more general use in bacteriology, board of health work, etc., and especially teaching medical students. JACK WITHERSPOON.

JOURNAL OF THE A. M. A., DECEMBER 21, 1912.

- *Pulmonary Tuberculosis as an Obstetric Complication. C. S. Bacon, M.D.
Intradural Root Anastomosis for the Relief of Paralysis of the Bladder and the Application of the Same Method in Other Paralytic Affections. C. H. Frazier, M.D., and Charles K. Mills, M.D.
Predementia Præcox. W. R. Dunton, Jr., M.D.
Cyanosis in Dementia Præcox. W. B. Cornell, M.D.
Medical Education in South America. Jacob Frank, A.M., M.D.
A Series of Infants Fed on a High Percentage Albumin Milk. F. C. Neff, M.D.
Relation of the Infant Welfare Movement to Pediatrics. T. B. Cooley, M.D.
The Properties, Uses, and Indications of the Various Carbohydrates Used in Infant Feeding. H. D. Chapin, M.D.
The Practical Import of Recent Work on Hysteria. T. A. Williams, M.B., C.M.
The Diagnosis of Tuberculosis of the Kidney in Very Early and Very Advanced Cases. Thorkild Rosing, M.D.
The Use of Tuberculin in the Treatment of Surgical Urogenital Tuberculosis. George Whiteside, M.D.
Decapsulation of the Kidney. D. S. Fairchild, M.D.
Recent Advances in Our Knowledge Concerning the Causes of Glycosuria. Thomas B. Fletcher, M.B.
The Surgical Treatment of Chronic Seminal Vesiculitis by Vasostomy (Belfield Operation). Robert H. Herbst, M.D.
Paranoid Type of Insanity with Jacksonian Convulsions; Syphilitic Cerebral Pachymeningitis; The Microscopic Findings. N. S. Yawger, M.D.
Glycosuria among the Insane. Clarence Emerson, Ph.D., M.D.
Two Cases of Acute Primary Cholecystitis Presenting Unusual Features. N. W. Jones, M.D.
Unilateral Optic Atrophy and Contralateral Hemiplegia Consequent on Occlusion of the Cerebral Vessels. W. B. Cadwalder, M.D.
Certain Physical Signs in Scoliosis of Lesser Degree. E. A. Gray, M.D.
Plea for Surgical Intervention in All Umbilical Hernias. J. W. Kennedy.
A Report of Some Chemical Analyses of Urinary Calculi. Max Kahn, M.D., and Jacob Rosenbloom, M.D., Ph.D.
Coccidioid Granuloma. Report of the Nineteenth Case in California. F. H. Bowles, M.D.
Acute Reflex Disorders Caused by the Cinematograph. George M. Gould, M.D.
Irritation from Iodin and Mercury on the Skin. S. R. Karpeles, M.D.
Chancre Developing Four Days After Salvarsan Injection. Melvin Rosenthal.
Prostatectomy Knife. E. H. Stier, M.D.

*There are every year in the United States between 22,000 and 44,000 gravidae with active tuberculosis, a frequency of 1 or 2 per cent.

The effect of tuberculosis on pregnancy is slight; the effect of pregnancy on tuberculosis differs in individual cases.

Does not admit the assumed clinical fact—viz., that all such cases grow worse during pregnancy; but in puerperium they become worse even in the milder cases, and severe cases may succumb within a few days or few weeks.

Prophylaxis presents two problems: Prevention of pregnancy in tuberculous, and prevention of infection in a pregnant woman or one liable to become pregnant.

He advocates temporary artificial sterilization by vaginal celiotomy; then, if she recovers from the tuberculosis, the distal end of the tube may be implanted in the uterine portion.

If a husband is tuberculous, he should take a sanatorium

cure, and even if cure is not effected, he will have learned how not to infect others.

He discusses interruption of pregnancy, for in spite of advice and care a tuberculous woman becomes pregnant.

Sometimes, but rarely, abortion is justified, and should be done only for the vital indication and in second half of pregnancy with effort to save life of fetus.

JACK WITHERSPOON.

INTERSTATE MEDICAL JOURNAL, DECEMBER, 1912.

Treatment of Human Cancer with Intravenous Injection of Colloidal Copper. Leo Loeb, C. B. McClurg, and W. O. Sweet.

*Address in Medicine. The Stomach from the Standpoint of the General Practitioner, the Specialist and the Surgeon. C. G. Stockton.

The British National Insurance Act and the Medical Profession. Kenneth W. Millican.

Prognosis of Cancer of the Vulva. Fred J. Tussig.

Eczema as Seen by the General Practitioner. A. Ravogli.

Backward Dislocation of the Femur with Eversion. Norman B. Carson.

*Dr. Stockton asks for closer co-operation between the general practitioner, the specialist, and the surgeon in work on digestive diseases. The first gets the case, the specialist makes the diagnosis and shunts him off on the surgeon for operation. For the patient to go this route the cost is as prohibitive as the diagnosis is varied.

For instance, chronic indigestion, in the opinion of the family physician, motor insufficiency from the duodenal ulcer in the judgment of the specialist, and chronic cholecystitis cured by the surgeon.

"The only way I see to conserve this vital interest and not bankrupt the patient is to work in groups either within or without the hospitals, and have one fee for all with or without operation."

JACK WITHERSPOON.

BOOKS RECEIVED.

PATHFINDERS IN MEDICINE. By Victor Robinson. With a Letter from Ernst Hæckel and an Introduction by Abraham Jacobi. Medical Review of Reviews, New York.

E. MERCK'S ANNUAL REPORT OF RECENT ADVANCES IN PHARMACEUTICAL CHEMISTRY AND THERAPEUTICS. 1911. Volume XXV. E. Merck Chemical Works, Darmstadt, 1912.

SKIN GRAFTING FOR SURGEONS AND GENERAL PRACTITIONERS. By Leonard Freeman, B.S., M.A., M.D., Professor of Surgery in the Medical Department of the University of Colorado, Surgeon to St. Joseph's Hospital, The National Jewish Hospital, and the City Hospital, Denver, Col. With 24 Illustrations. Price, \$1.50. C. V. Mosby Company, St. Louis, Mo.

INTERNATIONAL CLINICS, a Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles on Treatment, Medicine, Surgery, Neurology, Pædiatrics, Obstetrics, Gynecology, Orthopedics, Pathology, Dermatology, Ophthalmology, Otology, Rhinology, Laryngology, Hygiene, and Other Topics of Interest to Students and Practitioners. By Leading Members of the Medical Profession Throughout the World. Edited by Henry W. Cattell, A.M., M.D., Philadelphia, U. S. A., with the Collaboration of John A. Witherspoon, M.D., Nashville, Tenn., Sir William Osler, M.D., Oxford; A. McPhedran, M.D., Toronto; Frank Billings, M.D., Chicago; Chas. H. Mayo, M.D., Toronto; Thos. H. Rotch, M.D., Boston; John G. Clar, M.D., Edinburgh; John Harold, M.D., London; Richard Kretz, M.D., Vienna, with regular correspondents in Montreal, London, Paris, Berlin, Vienna, Leipsic, Brussels, and Carlsbad. Volume IV. Twenty-Second Series. 1912. J. B. Lippincott Co., Philadelphia.

BOOKS REVIEWED.

PHARMACOLOGY AND THERAPEUTICS. For Students and Practitioners of Medicine. By Horatio C. Wood, Jr., M.D. Pp. 414. Price, \$4. Published by J. B. Lippincott.

Owing to the rapid advances in the knowledge and practical application of pharmacologic science during recent years, the author deems it advisable to write a text which will "subordinate neither the science nor its application, but will emphasize their mutual interdependence." His classification of drugs is designed to give importance to both the pharmacological and clinical relations of the drugs as far as possible. This book is materially different from the work by the author's father on Therapeutics and is more adaptable to student's use on account of both the character and amount of material contained.

Some of the older practitioners may be shocked to see many of their old friends, such as valerian, asa-fetida, viburnum, and the so-called vegetable alteratives, rather briefly considered in a chapter headed "Drugs of Minor Importance." One finds quite a few jolts administered to "tradition" and "respect for the practices of the ancients," which are still too frequently the only reasons for the recognition and use of drugs. The author's object and plan in this work are highly commendable and show a marked advance in the present-day methods of teaching the subject.

R. W. BILLINGTON, M.D.

Volume III. of the Practical Medicine Series (Comprising ten volumes on the year's progress in Medicine and Surgery). Under the general editorial charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Medical School; Charles L. Mix, A.M., M.D., Professor of Physical Diagnosis in the Northwestern University Medical School.

*The Eye, Ear, Nose, and Throat. Edited by Casey A. Wood, C.M., M.D., D.C.L.; Albert H. Andrews, M.D.; Gustavus P. Head, M.D.

*This volume is a review of the most noteworthy articles given out during the year 1912 on the eye, ear, nose, and throat, and its value is guaranteed to us by the reputation of the editors. It is of especial value to the man looking for the latest information on subjects in this line of work.

E. B. CAYCE.

ELEMENTARY BACTERIOLOGY AND PROTOZOOLOGY. Herbert Fox, M.D. 220 pages; Glossary and Index. Lea & Febiger, Philadelphia and New York.

This is an admirable little book for the teaching of nurses and beginners in the study of bacteriology, and interesting and handy for those who have gotten farther along in the study of this very necessary branch of medicine.

Bacteria are classified and described. Chapters are given to sterilization, antiseptics and disinfectants.

Immunity and immune bodies are discussed. The more common pathogenic germs are discussed in detail and emphasis is laid on the method of their entrance to the body.

One chapter is devoted to the protozoa, including amoebae and malaria.

This book, while not designed as a laboratory working manual, is valuable in helping us answer that question: "How do germs cause disease?"

JACK WITHERSPOON.

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A. B. COOKE, M.D., Associate Editor

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VOLUME V.

NASHVILLE, TENNESSEE, FEBRUARY, 1913.

NUMBER 10.

AN ACT TO PROVIDE AN EFFECTIVE
SYSTEM FOR THE KEEPING OF REC-
ORDS OF ALL BIRTHS AND DEATHS
IN TENNESSEE; AND TO PROVIDE
PENALTIES FOR THE VIOLA-
TION OF THIS ACT.

*Be it enacted by the General Assembly of the
State of Tennessee.*

SECTION 1. That the State Board of Health shall have charge of the Registration of Births and Deaths; shall prepare the necessary instructions, forms and blanks for obtaining and preserving such records, and shall insure the faithful registration of the same in each primary registration district as constituted in Section 3 of this Act, and in the Central Bureau of Vital Statistics at the capital of the State. The said Board shall be charged with the uniform and thorough enforcement of the law throughout the State, and shall from time to time promulgate any additional forms and amendments that may be necessary for this purpose.

SEC. 2. That the Secretary of the State Board of Health shall have general supervision over the Central Bureau of Vital Statistics, which is hereby authorized to be established by said Board, and which shall be under the immediate direction of the State Registrar of Vital Statistics, whom the State Board of Health shall appoint within thirty days after the passage of this law, and who shall be a medical practitioner of not less than three years practice in his profession, and a competent vital statistician. The term of appointment of the State Registrar of Vital Statistics shall be four years, and until his successor has been appointed and has qualified, unless such office shall sooner become vacant by death, disqualification, operation of law, or other causes.

Any vacancy occurring in such office shall be filled for the unexpired term by the State Board of Health.

At least ten days before the expiration of the term of office of the State Registrar of Vital Statistics, his successor shall be appointed by the State Board of Health. The State Registrar of Vital Statistics shall receive an annual salary at the rate of three thousand dollars from the date of his appointment. The State Board of Health shall provide for such clerical and other assistants as may be necessary for the purpose of this Act, who shall serve during the pleasure of the Board, and may fix the compensation of persons thus employed within the amount appropriated therefor by the legislature. Suitable apartments shall be provided by the custodian of the Capitol for the Bureau of Vital Statistics in the State Capitol at Nashville, which shall be properly equipped with filing cases for the permanent and safe preservation of all official records made and returned under this Act.

Suitable apartments shall be provided by the State Board of Health for the Bureau of Vital Statistics, which shall be properly equipped for the permanent and safe preservation of all official records made and returned under this Act.

SEC. 3. That for the purpose of this Act the State shall be divided into registration districts as follows: Each city, incorporated town and civil district shall constitute a primary registration district. Provided, that the State Board of Health may combine two or more primary districts into one primary registration district when necessary to facilitate registration.

SEC. 4. That within ninety days after the taking effect of this Act, or as soon thereafter as possible, the State Registrar shall appoint a local registrar of vital statistics for each registration district in the State. The term of office of the

local registrars, so appointed, shall be for four years, and until his successor has been appointed and has qualified, unless such office shall sooner become vacant by death, disqualification, operation of law or other causes, and their successors shall be appointed at least ten days before the expiration of their terms of office; provided, that in cities where health officers or other officials are conducting effective registration of births and deaths under local ordinances at the time of the taking effect of this Act, such officials may be appointed as registrars in and for such cities, and shall be subject to the rules and regulations of the State Registrar, and to all of the provisions of this Act.

Any local registrar appointed by said Board who fails or neglects to discharge efficiently the duties of his office as laid down in this Act, or who fails to make prompt and complete returns of births and deaths, as required thereby, shall be forthwith removed from his office by the State Registrar, and his successor appointed, in addition to any other penalties that may be imposed, under other sections of this Act, for failure or neglect to perform his duty.

Each local registrar appointed by said State Registrar shall, immediately upon his acceptance of appointment as such, appoint a deputy, whose duty it shall be to act in his stead in case of absence, illness or disability, who shall in writing accept such appointment, and who shall be subject to all rules and regulations governing local registrars. And when it may appear necessary for the convenience of the people in any rural district, the local registrar is hereby authorized with the approval of the State Registrar, to appoint one or more suitable persons to act as sub-registrars, who shall be authorized to receive certificates and to issue burial or removal permits in and for such portions of the district as may be designated; and each sub-registrar shall note, over his signature, the date on which each certificate was filed, and shall forward all certificates to the local registrar of the district within ten days, and in all cases before the third day of the following month; provided, that all sub-registrars shall be subject to the supervision and control of the State Registrar, and may be by him removed for neglect or failure to perform their duties in accordance with the provisions of this Act or the rules and regulations of the State Registrar,

and they shall be liable to the same penalties for neglect of duties as the local registrar.

SEC. 5. That the body of any person whose death occurs in the state shall not be interred, deposited in a vault or tomb, cremated or otherwise disposed of, or removed from or into any registration district, or be temporarily held pending further disposition more than 72 hours after death, until a permit for burial, removal or other disposition thereof shall have been properly issued by the local registrar of the registration district in which the death occurred. And no such burial or removal permit shall be issued by any registrar until a complete and satisfactory certificate of death has been filed with him as hereinafter provided; provided, that when a dead body is transported by common carrier into a registration district in Tennessee for burial, then the transit and removal permit, issued in accordance with the law and health regulations of the place where the death occurred, when said death occurs outside of the State of Tennessee, shall be accepted by that local registrar of the district, into which the body has been transported for burial or other disposition, as a basis upon which he shall issue a local burial permit, in the same way as if the death occurred in his district, he shall plainly enter upon the face of the burial permit the fact that it was a body shipped in for interment, and give the actual place of death; but a burial permit shall not be required from the local registrar of the district in which interment is made, when a body is removed from one district in Tennessee to another in the state, for purpose of burial or other disposition, either by common carrier, hearse, or other conveyance; and no local registrar shall require from undertakers or persons acting as undertakers any fee for the issue of burial or removal permits under this Act.

SEC. 6. That stillborn children, or those dead at birth, shall be registered as births and also as deaths, and a certificate of both birth and death shall be filed with the local registrar, in the usual form and manner, the certificate of birth to contain, in place of the name of the child, the word "Stillbirth." The medical certificate of the cause of death shall be signed by the attending physician, if any, and shall state the cause of death as "stillborn," with the cause of stillbirth, if known, whether a premature birth, and, if born prematurely, the period of uterine gestation, in

months, if known; and a burial or removal permit in the usual form shall be required. Midwives shall not sign certificates of death for still-born children; but such cases, and stillbirths occurring without attendance of either physician or midwife, shall be treated as deaths without medical attendance, as provided for in Section 8 of this Act.

Provided, that a certificate of birth and death shall not be required for a child that has not advanced to the fifth month of utero-gestation.

SEC. 7. That the certificate of death shall be of the United States standard form as approved by the Bureau of the Census, and shall contain the following items:

(1) Place of death, including state, county, civil district, incorporated town or city. If in a city, the ward, street and house number. If in a hospital or other institution, the name of the same to be given instead of the street and house number. If in an industrial camp, the name of the camp to be given.

(2) Full name of decedent. If an unnamed child, the surname preceded by "unnamed."

(3) Sex.

(4) Color or race—as white, black (negro or negro descent), Indian, Chinese, Japanese or other.

(5) Conjugal condition—as single, married, widowed or divorced.

(6) Date of birth, including the year, month and day.

(7) Age, in years, months and days. If less than one day, the hours or minutes.

(8) Occupation. The occupation to be reported of any person who had any remunerative employment; women as well as men, stating (a) trade, profession or particular kind of work; (b) general nature of industry, business or establishment in which employed (or employer).

(9) Birthplace; state or foreign country.

(10) Name of father.

(11) Birthplace of father; state or foreign country.

(12) Maiden name of mother.

(13) Birthplace of mother; state or foreign country.

(14) Signature and address of informant.

(15) Official signature of registrar, with the date when certificate was filed, and registered number.

(16) Date of death, year, month and day.

(17) Statement of medical attendance on decedent, fact and time of death, time last seen alive, and the cause of death with contributory cause (secondary) or complication, if any, and duration of each, and if attributed to dangerous or unsanitary conditions of employment; signature and address of physician or official making the medical certificate.

(18) Length of residence (for hospitals, institutions, transients or recent residents) at place of death and in the state.

(19) Place of burial or removal; date of burial.

(20) Signature and address of undertaker, or person acting as such.

The personal and statistical particulars (Items 1 to 13) shall be authenticated by the signature of the informant, who may be any competent person acquainted with the facts.

The statement of facts relating to the disposition of the body shall be signed by the undertaker or person acting as such.

The medical certificate shall be made and signed by the physician, if any, last in attendance on the deceased, who shall specify the time in attendance, the time he last saw the deceased alive, and the hour of the day at which death occurred. And he shall further state the cause of death, so as to show the course of disease or sequence of causes resulting in the death, giving first the name of the disease causing death (primary cause), and the contributory (secondary) cause, if any, and the duration of each. Indefinite and unsatisfactory terms, indicating only symptoms of disease or conditions resulting from disease, will not be held sufficient for issuing a burial or removal permit; and any certificate containing only such terms as defined by the State Registrar shall be returned to the physician for correction and more definite statement. Causes of death, which may be the result of either disease or violence, shall be carefully defined; and, if from violence, the means of injury shall be stated, and whether (probably) accidental, suicidal or homicidal. And in deaths in hospitals, institutions, or of non-residents, the physician shall furnish the information required under this head (Item 18), and may state where, in his opinion, the disease was contracted.

SEC. 8. That in case of any death occurring without medical attendance, it shall be the duty

of the undertaker to notify the local registrar of such death, and when so notified the registrar shall inform the local health officer and refer the case to him for immediate investigation and certification, prior to issuing the permit; provided, that when the local health officer is not a qualified physician, or when there is no such official, and in such cases only, the registrar is authorized to make the certificate and return from the statement of relatives or other persons having adequate knowledge of the facts; provided, further, that if the death was caused by unlawful or suspicious means, the registrar shall then refer the case to the coroner for his investigation and certification. And any coroner whose duty it is to hold an inquest on the body of any deceased person, and to make the certificate of death required for a burial permit, shall state in his certificate the name of the disease causing death, or if from external causes; (1) the means of death; and (2) whether (probably) accidental, suicidal, or homicidal; and shall, in either case, furnish such information as may be required by the State Registrar in order properly to classify the death.

SEC. 9. That the undertaker, or person acting as undertaker, shall be responsible for obtaining and filing the certificate of death with the local registrar of the district in which the death occurred; and for securing a burial or removal permit, prior to any disposition of the body. He shall obtain the personal and statistical particulars required from the person best qualified to supply them, over the signature and address of his informant. He shall then present the certificate to the attending physician, if any, or to the health officer or coroner, as directed by the local registrar, for the medical certificate of the cause of death and other particulars necessary to complete the record, as specified in Sections 7 and 8. And he shall then state the facts required relative to the date and place of burial, over his signature and with his address, and present the completed certificate to the local registrar in order to obtain a permit for burial, removal or other disposition of the body. The undertaker shall deliver the burial permit to the sexton, or person in charge of the place of burial, before interring or otherwise disposing of the body; or shall attach the transit permit containing the registration removal permit to the box containing the corpse, when shipped by any transportation company;

said permit to accompany the corpse to its destination, where, if within the State of Tennessee it shall be delivered to the sexton or to other person in charge of the place of burial.

SEC. 10. That if the interment, or other disposition of the body is to be made within the state, the wording of the burial permit may be limited to a statement by the registrar, and over his signature that a satisfactory certificate of death having been filed with him, as required by law, permission is granted to inter, remove, or otherwise dispose of the deceased, stating the name, age, sex, cause of death, and other necessary details upon the form prescribed by the State Registrar.

SEC. 11. That no sexton or person in charge of any premises in which interments are made shall inter or permit the interment or other disposition of any body unless it is accompanied by a burial, removal or transit permit, as herein provided. And each sexton, or person in charge of any burial ground, shall indorse upon the permit the date of interment, over his signature, and shall return all permits so indorsed to the local registrar of his district within ten days from the date of interment, or within the time fixed by the local Board of Health. He shall also keep a record of all interments made in the premises under his charge, stating the name of the deceased person, place of death, date of burial, and name and address of the undertaker, which record shall at all times be open to public inspection.

SEC. 12. Undertakers or persons acting as such when burying a body in a cemetery or burial ground having no sexton or person in charge shall sign the burial or removal permit as sexton, giving the date of burial, and shall write across the face of the permit the words, "No sexton in charge," and file the burial or removal permit within ten days with the registrar of the district in which the cemetery is located.

Every person, firm or corporation selling a casket shall keep a record showing the name of the purchaser, purchaser's post office address, name of deceased, date and place of death of the deceased. This record to be open to inspection of the State Registrar at all times. On the first day of each month the person, firm or corporation selling caskets shall report to the State Registrar each sale for the preceding month, on a blank provided for that purpose. Provided, however, no person, firm or corporation selling cas-

kets only to dealers or undertakers shall be required to keep such record, nor shall such report be required from undertakers when they have direct charge of the disposition of a dead body.

Every person, firm or corporation selling a casket at retail, and not having charge of the disposition of the body shall enclose within the casket a notice furnished by the State Registrar calling the attention of the purchaser to the requirements of the law, and the rules and regulations of the State Board of Health concerning the burial or other disposition of a dead body.

SEC. 13. That all births that occur in the state shall be immediately registered in the districts in which they occur, as hereinafter provided.

SEC. 14. That it shall be the duty of the attending physician or midwife to file a certificate of birth, properly and completely filled out, giving all the particulars required by this Act, with the local registrar of the district in which the birth occurred, within ten days after the date of birth. And if there be no attending physician or midwife, then it shall be the duty of the father or mother of the child, householder or owner of premises, manager or superintendent of public or private institutions in which the birth occurred, to notify the local registrar, within ten days after the birth, of the fact that a birth has occurred. It shall then be the duty of the local registrar to secure the necessary information and signature to make a proper certificate of birth.

SEC. 15. That the certificate of birth shall contain the following items:

(1) Place of birth, including state, county, civil district, incorporated town or city. If in a city, the ward, street and house number; if in a hospital or other institution, the name of the same to be given, instead of the street and house number.

(2) Full name of child. If the child dies without a name, before the certificate is filed, enter the words "died unnamed." If the living child has not yet been named at the date of filing certificate of birth, the space for "full name of child" is to be left blank, to be filled out subsequently by a supplemental report, as hereinafter provided.

(3) Sex of child.

(4) Whether a twin, triplet, or other plural birth. A separate certificate shall be required

for each child in case of plural birth, giving number of child in order of birth.

(5) Whether legitimate or illegitimate.

(6) Full name of father, except for illegitimate children.

(7) Residence of father.

(8) Color or race of father.

(9) Birthplace of father; state or foreign country.

(10) Age of father at last birthday, in years.

(11) Occupation of father.

(12) Maiden name of mother.

(13) Residence of mother.

(14) Color or race of mother.

(15) Birthplace of mother; state or foreign country.

(16) Age of mother at last birthday, in years.

(17) Occupation of mother.

(18) Number of child of this mother, and number of children of this mother now living.

(19) Born at full term?

(20) The certificate of attending physician or midwife as to attendance at birth, including statement of year, month, day and hour of birth, and whether the child was alive or dead at birth. This certificate shall be signed by the attending physician or midwife, with date of signature and address; if there is no physician or midwife in attendance, then the father or mother of the child, householder or owner of the premises, or manager or superintendent of public or private institution, or other competent person, whose duty it shall be to notify the local registrar of such birth, as required by Section 13 of this Act.

(21) Exact date of filing in office of local registrar, attested by his official signature, and registered number of births, as hereinafter provided.

All certificates, either of births or deaths, shall be written legibly, in unfading ink, and no certificate shall be held to be complete and correct that does not supply all of the items of information called for herein, or satisfactorily account for their omission.

SEC. 16. That when any certificate of birth of a living child is presented without the statement of the given name, then the local registrar shall make out and deliver to the parents of the child a special blank for the supplemental report of the given name of the child, which shall be filled out as directed, and returned to the local registrar as soon as the child shall have been named.

SEC. 17. That the State Registrar shall prepare, print and supply to all registrars all blanks and forms used in registering, recording and preserving the returns, or in otherwise carrying out the purposes of this Act; and shall prepare and issue such detailed instructions as may be required to secure the uniform observance of its provisions and the maintenance of a perfect system of registration. And no other blanks shall be used than those supplied by the State Registrar. He shall carefully examine the certificates received monthly from the local registrars, and if any such are incomplete or unsatisfactory, he shall require such further information to be furnished as may be necessary to make the record complete and satisfactory. And all physicians, midwives, informants or undertakers, and all other persons having knowledge of the facts, are hereby required to furnish such information as they may possess regarding any birth or death upon demand of the State Registrar, in person, by mail, or through the local registrar. He shall further arrange, bind and permanently preserve the certificates in a systematic manner, and shall prepare and maintain a comprehensive and continuous card index of all births and deaths registered; the cards to show the name of child or deceased, place and date of birth or death, number of certificates, and the volume in which it is contained. He shall inform all registrars what diseases are to be considered as infectious, contagious, or communicable and dangerous to the public health, as decided by the State Board of Health, in order that when deaths occur from such diseases proper precautions may be taken to prevent the spreading of dangerous diseases.

SEC. 18. That it shall be the duty of the local registrars to supply blank forms of certificates to such persons as require them. Each local registrar shall carefully examine each certificate of birth or death, when presented for record, to see that it has been made out in accordance with the provisions of this Act and the instructions of the State Registrar; and if any certificate of death is incomplete or unsatisfactory, it shall be his duty to call attention to the defects in the return, and to withhold issuing the burial or removal permit until they are corrected. If the certificate of death is properly executed and complete, he shall then issue a burial or removal permit to the undertaker; provided, that in case the death oc-

curred from some disease that is held by the State Board of Health to be infectious, contagious or communicable and dangerous to the public health, no permit for the removal or other disposition of the body shall be granted by the registrar, except under such conditions as may be prescribed by the State Board of Health. If a certificate of birth is incomplete, he shall immediately notify the informant, and require him to supply the missing items if they can be obtained. He shall then number consecutively the certificates of birth and death, in two separate series, beginning with the number 1 for the first birth and the first death in each calendar year, and sign his name as registrar in attest of the date of filing in his office. He shall also make a complete and accurate copy of each birth and death certificate registered by him in a record book supplied by the State Registrar, to be permanently preserved in his office as the local record, in such manner as directed by the State Registrar. And he shall, on the tenth day of each month, transmit to the State Registrar all original certificates registered by him during the preceding month. And if no birth or deaths occurred in any month, he shall, on the tenth day of the following month, report that fact to the State Registrar, on a card provided for this purpose.

SEC. 19. That each local registrar shall be paid the sum of twenty-five cents for each birth certificate and each death certificate properly and completely made out and registered with him, correctly recorded and promptly returned by him to the State Registrar, as required by this Act. And in case no birth or death were registered during any month, the local registrar shall be entitled to be paid the sum of twenty-five cents for each report to that effect, but only if promptly made in accordance with this Act. All amounts payable to a registrar under the provisions of this section shall be paid by the county judge of the county in which the registration district is located, upon certification of the State Registrar. And the State Registrar shall annually certify to the county judges of the several counties the number of births and deaths properly registered, with the names of the local registrars and the amounts due each at the rates fixed herein.

SEC. 20. That the State Registrar shall, upon request, furnish any applicant a certified copy of the record of any birth or death registered under provisions of this Act, for the making and

certification of which he shall be entitled to a fee of fifty cents, to be paid by the applicant. And any such copy of the record of a birth or death, when properly certified by the State Registrar to be a true copy thereof, shall be *prima facie* evidence in all courts and places of the facts therein stated. For any search of the files and records when no certified copy is made, the State Registrar shall be entitled to a fee of fifty cents for each hour or fractional part of an hour of time of search, to be paid by the applicant. And the State Registrar shall keep a true and correct account of all fees by him received under these provisions, and turn the same over to the State Treasurer.

SEC. 21. That any physician who was in medical attendance upon any deceased person at the time of death who shall neglect or refuse to make out and deliver to the undertaker, sexton or other person in charge of the interment, removal or other disposition of the body, upon request, the medical certificate of the cause of death, hereinbefore provided for, shall be deemed guilty of a misdemeanor, and, upon conviction thereof, shall be fined not less than five dollars nor more than fifty dollars. And if any physician shall knowingly make a false certification of the cause of death, in any case, he shall be deemed guilty of a misdemeanor, and, upon conviction thereof, shall be fined not more than fifty dollars.

And any physician or midwife in attendance upon a case of confinement, or any other person charged with responsibility for reporting births, in the order named in Section 13 of this Act, who shall neglect or refuse to file a proper certificate of birth with the local registrar, within the time required by this Act, shall be deemed guilty of a misdemeanor, and upon conviction thereof, shall be fined not less than five dollars nor more than fifty dollars.

And any undertaker, sexton or other person acting as undertaker, who shall inter, remove or otherwise dispose of the body of any deceased person, without having received a burial or removal permit as herein provided, shall be deemed guilty of a misdemeanor, and upon conviction thereof, shall be fined not less than five dollars nor more than fifty dollars.

And any registrar, deputy registrar, or sub-registrar who shall neglect or fail to enforce the provisions of this Act in his district, or shall neglect or refuse to perform any of the duties im-

posed upon him by this Act or by the instructions and directions of the State Registrar, shall be deemed guilty of a misdemeanor, and upon conviction thereof, shall be fined not less than five dollars nor more than fifty dollars.

And any person who shall willfully alter any certificate of birth or death, or the copy of any certificate of birth or death, on file in the office of the local or State Registrar, shall be deemed guilty of a misdemeanor, and upon conviction thereof, shall be fined not less than five dollars nor more than fifty dollars, or be imprisoned in the county jail not exceeding sixty days, or suffer both fine and imprisonment, in the discretion of the court.

And any other person or persons who shall violate any of the provisions of this Act, or who shall wilfully neglect or refuse to perform any duties imposed upon them by the provisions of this Act, or shall furnish false information to a physician, undertaker, midwife, or informant, for the purpose of making incorrect certification of births or deaths, shall be deemed guilty of a misdemeanor, and upon conviction thereof, shall be fined not less than five dollars nor more than fifty dollars.

And any transportation company or common carrier transporting or carrying, or accepting through its agents or employes for transportation or carriage, the body of any deceased person without an accompanying permit issued in accordance with the provisions of this Act, shall be deemed guilty of a misdemeanor, and upon conviction thereof, shall be fined not more than fifty dollars; provided, that in case the death occurred outside of the state and the body is accompanied by a burial, removal or transit permit issued in accordance with the law or Board of Health regulations in force when the death occurred, such burial, removal or transit permit may be held to authorize the transportation or carriage of the body into or through the state.

SEC. 22. That each local registrar is hereby charged with the strict and thorough enforcement of the provisions of this Act in his registration district, under the supervision and direction of the State Registrar. And he shall make an immediate report to the State Registrar of any violation of this law coming to his notice, by observation or upon complaint of any person, or otherwise. The State Registrar is hereby charged with the thorough and efficient execu-

tion of the provisions of this Act in every part of the state, and with supervisory power over local registrars, to the end that all of its requirements shall be uniformly complied with. He shall have authority to investigate cases of irregularity or violation of law, personally or by an accredited representative, and all registrars shall aid him, upon request, in such investigations. When he shall deem it necessary, he shall report cases of violation of any of the provisions of this Act to the prosecuting attorney of the county, with a statement of the facts and circumstances; and when any such case is reported to him by the State Registrar, the prosecuting attorney shall forthwith initiate and promptly follow up the necessary court proceedings against the person or corporation responsible for the alleged violation of law. And upon request of the State Registrar, the attorney-general shall likewise assist in the enforcement of the provisions of this Act.

SEC. 23. The sum of \$10,000 be and the same is hereby appropriated annually out of any monies in the treasury of the State for the purpose of paying said salaries and other expenditures made in pursuance of the provisions of this Act.

SEC. 24. That Chapter 341 of the Acts of the General Assembly of the State of Tennessee for the year 1909, entitled, "An Act to Provide for the Annual Collection and Registration of Births and Deaths in the State of Tennessee; to Fix the Compensation for Such Collection and Registration; and to Provide Fine and Penalty for the Violation of This Act." Together with all other laws or parts of laws in conflict with this Act, be and the same are hereby repealed. And no system for the registration of births and deaths shall be continued or maintained in any of the several municipalities of this State other than the one provided for and established by this Act.

SEC. 25. That this Act take effect from and after its passage, the public welfare requiring it.

The rapid rise and maintained high pressure met with in uremia, Stokes-Adams syndrome, angina, migraine seizures, and other painful spasmodic affections are very probably due to vasomotor spasm, since both pain and symptoms ameliorate with the fall of pressure.—*The Medical Times*.

AN ACT TO ESTABLISH A LABORATORY FOR THE DEPARTMENT OF PUBLIC HEALTH AND TO PROVIDE FOR ITS EQUIPMENT, MAINTENANCE AND DIRECTION BY THE STATE BOARD OF HEALTH.

Whereas, The Health Department is deficient in laboratory equipment and in means to take proper care of the health of the people of Tennessee, and recognizing the urgent need of the laboratory for the Department of Public Health to the end that the public health may be conserved and the State Board of Health may be enabled to carry out the provisions of their department; therefore,

Be it enacted by the General Assembly of the State of Tennessee:

SECTION 1. That on and after the passage of this Act that the State Board of Health be, and is hereby, empowered to establish, equip and direct a laboratory for the Department of Public Health and to provide for its maintenance and to appoint such assistants to the Department of Public Health as are necessary in the operation of same, who shall serve subject to the pleasure of the State Board of Health.

SEC. 2. *Be it further enacted*, That appropriation of \$10,000 be made to be used as follows:

Equipment	\$ 3,000.00
Maintaining equipment	1,000.00
Director and assistants (2 years)	5,000.00
Printing, stenographic work and blanks	1,000.00
	<hr/>
	\$10,000.00

SEC. 3. *Be it further enacted*, That this Act take effect from and after its passage, the public welfare requiring it.

A BILL.

To be entitled, "An Act to Regulate the Practice of Medicine and Surgery in the State of Tennessee, and to define and punish offenses committed in violation of this act, and to repeal an act passed April 20, 1901, and approved April 22, 1901, being Chapter 78, of the Acts of 1901, entitled, "An Act to Regulate the Practice of Medicine and Surgery in the State of Tennessee and to define and punish offenses committed in violation of this Act;" and to repeal an Act passed April 3, 1889, and approved April 4, 1889, and being Chapter 178, of the Acts of 1889, entitled, "An Act to regulate the practice of medicine and surgery in the State of Tennessee;" and to repeal all Acts amendatory to said Chapter 178, of the Acts of 1889, and to repeal all Acts amendatory of said Chapter 78 of the Acts of 1901, to-wit: Chapter III of the Acts of 1905 passed March 27, 1905, being entitled "An Act to Amend Section 1, of Chapter 78 of the Acts of 1901, entitled, "A Bill to be Entitled, An Act to Regulate the Practice of Medicine and Surgery in the State of Tennessee," and to define and punish offenses committed in violation of this Act; and to repeal an Act passed April 3, 1889, and approved April 4, 1889, and being Chapter 178 of the Acts of 1889, entitled "An Act to Regulate the Practice of Medicine and Surgery in the State of Tennessee," and to repeal all Acts amendatory of said Chapter 178 of the Acts of 1889; and Chapter 543 of the Acts of 1907 passed April 15, 1907. An Act to amend Section 6 of Chapter 78 of the Acts of the General Assembly of the State of Tennessee for the year 1901, passed April 20, 1901, and approved by the Governor, April 22, 1901, said Chapter 78 being entitled "An Act to Regulate the Practice of Medicine and Surgery in the State of Tennessee, and to Define and Punish Offenses Committed in Violation of This Act;" and to repeal an Act passed April 3, 1889, and approved April 4, 1889, and being Chapter 178 of the Acts of 1889, entitled, "An Act to Regulate the Practice of Medicine and Surgery in the State of Tennessee;" and to repeal all Acts amendatory of said Chapter 178 of the Acts of 1889; and

all other laws and parts of laws in conflict with this Act.

SECTION 1. *Be it enacted by the General Assembly of the State of Tennessee*, That no person shall practice medicine or surgery in any of its departments within this State unless and until such person shall have obtained a certificate of license from the State Board of Medical Examiners hereinafter created, and shall have had the same recorded in the office of the County Court Clerk in the County in which he proposes to practice; Provided, That any person or persons, who, at the time of the passage of this Act, are duly and regularly licensed to practice medicine and surgery in any of its branches in this State, and have had their certificates of license registered according to law, shall not be required to procure a license under this Act; and, provided further, that any person or persons who, at the time of the passage of this Act, hold a certificate of license to practice medicine and surgery in any of its branches in this State, and who have not had said license registered according to law, shall have six months from the passage of this Act to present such certificate of license to the State Board of Medical Examiners, who, upon such presentation, shall renew such certificate, which when registered, word for word, as herein provided, shall entitle the person named therein to practice medicine and surgery in this State without procuring a license under the provisions of this Act; Provided further, that any physician holding a diploma from any reputable medical college, said diploma bearing date prior to 1900, and such physician being of good moral character, and a practitioner of medicine and surgery in this State for ten years immediately preceding the passage of this Act, may present his diploma to the State Board of Medical Examiners, who shall thereupon issue to him a certificate of license to practice medicine in this State, upon his paying the legal fees therefor, said certificate to be registered as herein provided.

SEC. 2. *Be it further enacted*, That there shall be a Board, to be known as the State Board of Medical Examiners and to consist of six graduated physicians of not less than six years' experience each in the practice of medicine and surgery, two of whom shall reside in each grand division of the State, and whose duty it shall be

to examine into the qualifications of all applicants for certificates of license to practice medicine and surgery in this State; provided, however, that the three schools of medicine shall be represented on said State Board of Medical Examiners as follows: Four representatives from the regular school of medicine, one from the eclectic, one from the homeopathic school of medicine; and provided, also, that no member or said State Board of Medical Examiners shall be connected with any medical college of the State, or State Board of Health.

SEC. 3. *Be it further enacted*, That, the members of said State Board of Medical Examiners shall be appointed by the Governor and shall hold office for a term of six years, provided that the members of the present State Board of Medical Examiners shall retain their offices and commissions, respectively; and shall constitute the present State Board of Medical Examiners until the term of each shall have regularly expired, under the Act, heretofore passed, creating said State Board of Medical Examiners, and no appointment shall be made under this Act until the expiration of said respective terms of office, aforesaid; and provided, further, that when any vacancy is to be filled by the Governor, the State Medical Associations representing the three schools of practice set forth in Section 2 of this Act, may recommend to the Governor a list of not less than twelve (12) eligible physicians for membership, eight from the regular, two from the eclectic and two from the homeopathic, on the State Board of Medical Examiners, from which list, if furnished, the Governor may appoint the members of said State Board of Medical Examiners, but it is the meaning of this Act that the members so suggested to the Governor, by said association, is not obligatory upon him for appointment: but he may make said appointment from any other list or in any other way that he may think best. In the event of the death, resignation, or complete disability, mental or physical, or removal from the State of any member of said State Board of Medical Examiners before his term of office shall have expired, the said State Board of Medical Examiners is hereby authorized and empowered to fill such vacancy by the election of a physician eligible under the terms of this Act, who shall hold office during such unexpired term.

SEC. 4. *Be it further enacted*, That the State Board of Medical Examiners is authorized to elect from its own members a President and Secretary and Treasurer, and create such other offices and to adopt such by-laws as may be necessary and proper for the efficient operation of the State Board of Medical Examiners. Four members shall constitute a quorum and a majority of those present shall be necessary to reject any applicant, but such rejection shall not bar the applicant from a re-examination after the lapse of six months.

SEC. 5. *Be it further enacted*, That a regular meeting of the State Board of Medical Examiners shall be held each year in the City of Nashville, Tennessee, but special meetings may be held upon the call of the President, or at such times and places as a majority of the State Board of Medical Examiners may order.

SEC. 6. *Be it further enacted*, That persons desiring to obtain a certificate of permanent license to practice medicine and surgery in this State shall make application therefor in writing to the State Board of Medical Examiners, presenting to the Secretary, prior to the issuance of the certificate of license, a diploma from a reputable medical college now requiring four (4) courses of lectures, of not less than 30 weeks each, no two of these courses ending in the same calendar year. The application shall be accompanied by the fees hereinafter prescribed, and by satisfactory proof of good moral character, and such other information and details as may be prescribed by the State Board of Medical Examiners. When these preliminary requirements are satisfied, the applicant shall then present himself before the State Board of Medical Examiners for examination upon the following branches, viz.: Anatomy, Physiology, Chemistry, Diagnosis, Pathology, Bacteriology, Hygiene, Obstetrics, and Surgery. The member or members of the State Board of Medical Examiners representing each separate school of medicine shall have the right to examine all applicants of that school in the branches peculiar to the teachings of that school, and the State Board of Medical Examiners shall accept the grade placed by such member or members upon such branches.

SEC. 7. *Be it further enacted*, That the two members of said State Board of Medical Examiners in each grand division of the State shall,

at such time or times as the State Board of Medical Examiners may direct, meet at some convenient point in their respective divisions for the purpose of examining applicants for permanent license. Such meetings shall be held at stated periods, and the questions to be propounded upon each examination shall have been determined upon in advance by the State Board of Medical Examiners, and be identical in each division, and such examinations shall be held on the same day in each division, and under uniform rules and regulations, to be adopted by the State Board of Medical Examiners. The examination papers will be graded by the members of the State Board of Medical Examiners, and said grades and such papers as the State Board of Medical Examiners may deem necessary shall be carried to Nashville to the annual meeting of the State Board of Medical Examiners. The grades and papers shall then be passed upon by the State Board of Medical Examiners in annual session and the result declared and certificates issued to those entitled to receive them. The State Board of Medical Examiners or any of its respective sections, may at the option of the members, supplement such written examinations by oral examinations, and the recorded value of such oral examinations may be given such importance as such members of the State Board of Medical Examiners see fit.

SEC. 8. *Be it further enacted*, That, if the applicant for examination shall thereupon be found worthy and competent by the State Board of Medical Examiners, the State Board of Medical Examiners shall issue to him a certificate of permanent license, to practice medicine and surgery in this State.

SEC. 9. *Be it further enacted*, That, in order to prevent delay and inconvenience, the two members of the State Board of Medical Examiners of any grand division of this State may grant a certificate of temporary license to any applicant who is permanently located as a resident of some designated place in that division of the State, upon satisfactory evidence to them that such applicant possesses the qualifications hereinabove required, and upon written examination by them of such applicant in the subjects named in Section 6, of this Act, and make report thereof to the next regular meeting of the State Board of Medical Examiners. Such tem-

porary license shall not continue in force longer than until the conclusion of the next regular meeting of the State Board of Medical Examiners, and shall in no case be granted within six months after the applicant has been refused a certificate of license by the State Board of Medical Examiners. Provided, that no one shall be examined for temporary license who has not attended three full courses of medical lectures at some reputable medical college.

SEC. 10. *Be it further enacted*, That the State Board of Medical Examiners shall keep a record of their proceedings in a book for that purpose, which book shall be open for inspection, and shall record the name of each applicant, the time of granting the certificate of license, the names of the members of the State Board of Medical Examiners present; and where a certificate of license is denied by the State Board of Medical Examiners to any applicant under authority of this Act, the fact and ground of such denial shall be entered on the minutes of the State Board of Medical Examiners, and shall be communicated in writing to such applicant.

SEC. 11. *Be it further enacted*, That the State Board of Medical Examiners is empowered to demand a fee of ten dollars for an examination for a certificate of permanent license, and five dollars for an examination for a certificate of temporary license, and to demand for the issuance of a certificate of permanent license five dollars, and for the issuance of temporary license, one dollar.

SEC. 12. *Be it further enacted*, That any person thus receiving a certificate of license, whether permanent or temporary, from the State Board of Medical Examiners, shall forthwith have it recorded, word by word, in the office of the County Court Clerk of the County in which he proposes to practice, and the date of such recording shall be endorsed thereon; and such license, when so recorded, shall not be collaterally questioned by any legal proceeding. Until the license is recorded the holder shall not exercise any of the right or privileges therein conferred; and, in case said license is not recorded within three months from the date of its issuance, it shall become invalid. The Clerk shall be paid a fee of fifty cents for recording said certificate. Any registered physician removing his residence from one county in this State to another, in order to practice medicine, shall in like manner

record the certificate of license in the County to which he removes, and the holder of the certificate shall pay to the County Court Clerk, fifty cents for so doing; provided, that practitioners who have registered their licenses in the County in which they reside may respond to professional calls in any other County in the State without being required to record their certificates of license in said county or counties.

SEC. 13. *Be it further enacted*, That the County Court Clerk of each County shall keep, in a book to be provided for that purpose, a complete list of the certificates of license recorded by him, together with the date of each and the date of the recording. He shall record all certificates of license, whether permanent or temporary, granted by the State Board of Medical Examiners, of Tennessee, Verbatim et Literatim. The Clerk shall hereafter, beginning with the first Monday in September, 1913, and regularly at the expiration of every twelve months thereafter, report to the Secretary of the said State Board of Medical Examiners, a list of such registrations in his office, together with a list of the deaths and removals from his County of physicians who have thus registered, for which service the Clerk shall be paid, out of the funds of the State Board of Medical Examiners, ten cents for each name so reported. This register of the County Court Clerk shall be open for inspection during business hours. Any County Court Clerk of any County of the State who shall fail to make said report to the Secretary of the State Board of Medical Examiners within sixty days after July 1, of any year, as provided above, shall be guilty of a misdemeanor, and upon conviction shall pay a fine of five (5) dollars for each and every failure.

SEC. 14. *Be it further enacted*, That the members of said State Board of Medical Examiners shall receive as a compensation for their services, ten (10) dollars per day while in the actual service of the State Board of Medical Examiners, and also, shall receive any sums paid out by them for their actual hotel and traveling expenses by the most direct route to and from their respective places of residence, which together with the necessary expenses of each meeting of the State Board of Medical Examiners, shall be paid out of any money in the treasury

of the State Board of Medical Examiners, upon the certificate of the President and Secretary.

SEC. 15. *Be it further enacted*, That, the State Board of Medical Examiners shall have the right and power to revoke any license upon the ground that it was procured by fraud, or that the licensee has been guilty of unprofessional or dishonorable conduct.

SEC. 16. *Be it further enacted*, That the words, unprofessional or dishonorable conduct, as used in Section 15 of this Act, are hereby declared to mean:

First. The procuring or aiding or abetting in procuring a criminal abortion.

Second. The obtaining of any fee on the assurance that a manifestly incurable disease can be permanently cured.

Third. All advertising of medical business in which untruthful and improbable statements are made.

Fourth. All advertising of medicine or means whereby the monthly periods of women can be regulated or menses re-established if suppressed.

Fifth. Conviction of any offense involving moral turpitude.

Sixth. Habitual intemperance or excessive use of narcotics.

Seventh. Giving or receiving aid during an examination for license; or substituting one's self for another at such examination.

Eighth. The filing or attempting to file as his own a diploma or license of another, or a forged affidavit of identification, or the making of any false affidavit concerning himself, before, during, or after the examination for license, as provided herein.

Ninth. To practice or attempt to practice medicine in any of its branches under the name of another person, or persons, or firm, whether the person, or persons, or firm be a resident, or residents of this State or not, or whether he, she or they be deceased or not; or the acting under the name of and as agent of any other person, persons or firm, in the capacity of practitioner of medicine or surgery, or being examined for license for another, or to procure another to stand said examination.

SEC. 17. *Be it further enacted*, That it shall be unlawful for any itinerant physician or itinerant vendor of any drug, nostrum, ointment, or application of any kind, intended for the treat-

ment of diseases or injury, to sell or apply the same; or for such itinerant physician or vendor, by writing, printing, or other methods, to profess to cure or treat diseases or deformity by any drug, nostrum, manipulation, or other expedient in this State, and whoever shall violate the provisions of this Section of this Act shall be guilty of a misdemeanor; and, upon conviction thereof before a Court of competent jurisdiction, shall be fined in any sum not less than \$100.00 and not exceeding \$400.00.

SEC. 18. *Be it further enacted*, That any person who shall not at the time of the passage of this Act be duly and regularly licensed by law to practice medicine or surgery in this State, and who shall notwithstanding, practice medicine or surgery in this State without first having complied with the provisions of this Act, shall for each and every instance of such practice, be guilty of a misdemeanor, and on conviction thereof be fined in the sum of not less than \$25 nor more than \$50, and any person filing or attempting to file as his own a diploma or license of another, or a forged affidavit of identification, or make any false affidavit concerning himself, shall be guilty of a felony, and upon conviction thereof, shall be subject to the punishment prescribed by law for the crime of forgery. All fines and forfeitures of bonds for offenses under this Act shall be paid over to the State Board of Medical Examiners, to constitute a part of the fund of said State Board of Medical Examiners.

SEC. 19. *Be it further enacted*, That any person practicing, or attempting to practice medicine in any of its branches under the name of any other person, or persons, or firm whether the person, or persons, or firm be a resident, or residents, of this State or not, or whether he, she or they be deceased or not, or any person acting under the name of and as agent of any other person, persons, or firm, in the capacity of a practitioner of medicine or surgery, or be examined for another, or procure another to take the examination, shall be guilty of a misdemeanor, and upon conviction by any Court having criminal jurisdiction, shall be punished by imprisonment in the County jail for not less than thirty days, nor more than eleven months, or by a fine of not less than fifty nor

more than two hundred dollars, or both in the discretion of the Court, for each offense.

SEC. 20. *Be it further enacted*, That any person shall be regarded as practicing medicine within the meaning of this Act, who shall treat or profess to treat, operate on, or prescribe for any physical ailment or any physical injury to or deformity of another; provided, that nothing in this Section shall be construed to apply to the administration of domestic or family remedies, or cases of emergency, or to the laws regulating the practice of dentistry and osteopathy; and this Act shall not apply to surgeons of the United States Army, Navy or United States Public Health Service, or to any registered physician or surgeon of other states when called in consultation by a registered physician of this State, or to midwives, or to others, not giving or using medicine or appliances in their practice.

SEC. 21. *Be it further enacted*, That the State Board of Medical Examiners of Tennessee is hereby authorized to accept licenses issued by other states having requirements which, in the opinion of the State Board of Medical Examiners, are equal to those of this State, and which states accept, upon similar conditions, the licenses issued by the State Board of Medical Examiners of Tennessee. The State Board of Medical Examiners is hereby authorized and empowered to adopt such rules and regulations as in their judgment may be best for the carrying out of the provisions of this Section. If an applicant is admitted to the practice of medicine in this State under the provisions of this Section, he shall pay to the Secretary and Treasurer of the State Board of Medical Examiners a fee of ten (\$10) dollars before a certificate of license is issued to him or her. None of the provisions of this Section herein shall apply in any way to temporary licenses.

SEC. 22. *Be it further enacted*, That it shall not be lawful for the State Board of Medical Examiners, or any member thereof, in any manner whatever, or for any purpose, to charge or obligate the State for the payment of any money; and said State Board of Medical Examiners shall look alone to the revenue derived from the operation of this Act for the compensation designated in Section 14 hereof, and, if said revenue is not sufficient to pay each member in full, together with the necessary expenses of the State Board of Medical Examiners, then the amount

available shall be pro rated among the members. But, if there should be a greater revenue derived than shall be required to pay the compensation and expenses herein before directed, any surplus remaining therefrom shall be paid to the Comptroller of the State, who shall receipt the State Board of Medical Examiners for the amount so received, and shall account for said money as for other State revenue.

SEC. 23. *Be it further enacted*, That the grand jury of each county in the State is hereby given inquisitorial power over all offenses against or violations of this Act, and the Circuit and Criminal Judges shall give the same in their charges to the grand juries. And the State Board of Medical Examiners shall designate the members in each grand division of the State, whose duty it shall be to report any violations of this Act to the proper authorities.

SEC. 24. *Be it further enacted*, That it shall be a misdemeanor, and shall disqualify from office, for the State Board of Medical Examiners to issue a certificate of license to any person only as prescribed or set forth in this Act; provided, however, if the State Board of Medical Examiners should be disqualified from office, the Governor shall appoint a new State Board of Medical Examiners in full as provided in this Act.

SEC. 25. *Be it further enacted*, That Chapter 78 of the Acts of 1901, entitled, "An Act to Regulate the Practice of Medicine or Surgery in the State of Tennessee," to define and punish offenses committed in violation of this Act; and to repeal an Act passed April 3, 1889, and approved April 4, 1889, and being Chapter 178 of the Acts of 1889, entitled "An Act to Regulate the Practice of Medicine and Surgery in the State of Tennessee;" and to repeal all Acts amendatory of said Chapter 178 of the Acts of 1889; said Chapter 78 of the Acts of 1901, being passed April 20, 1901, and approved by the Governor April 22, 1901, together with all Acts amendatory thereof, to wit: Chapter III. of the Acts of 1905, passed March 27, 1905, and approved March 30, 1905, entitled, "An Act to Amend Section 1 of Chapter 78 of the Acts of 1901, entitled, 'A Bill to Be Entitled An Act to Regulate the Practice of Medicine and Surgery in the State of Tennessee, and to Define and Punish Offenses Committed in Violation of This Act;'" and to repeal an Act passed April 3, 1889, and

approved April 4, 1889, and being Chapter 178 of the Acts of 1889, entitled, "An Act to Regulate the Practice of Medicine and Surgery in the State of Tennessee," and to repeal all Acts amendatory of said Chapter 178 of the Acts of 1889; and Chapter 543 of the Acts of 1907 passed April 15, 1907, and approved April 15, 1907, entitled, "An Act to Amend Section 6 of Chapter 78 of the Acts of the General Assembly of the State of Tennessee for the Year 1901," passed April 20, 1901, and approved by the Governor April 22, 1901, said Chapter 78 being entitled, "An Act to Regulate the Practice of Medicine and Surgery in the State of Tennessee, and to Define and Punish Offenses Committed in Violation of This Act;" and to repeal an Act passed April 3, 1889, and approved April 4, 1889, and being Chapter 178 of the Acts of 1889, entitled, "An Act to Regulate the Practice of Medicine and Surgery in the State of Tennessee;" and to repeal all Acts amendatory of said Chapter 178 of the Acts of 1889; said amendatory Acts being germane to the purpose and style of the said Act of 1901, and all other laws and parts of laws in conflict with this Act be and the same are hereby repealed.

SEC. 26. *Be it further enacted*, That this Act take effect from and after September 1, 1913, the public welfare requiring it.

TUBERCULOUS PERITONITIS.*

BY M. GOLTMAN, C. M., M. D.,

*Clinical Professor of Surgery, Medical Department, University of Tennessee,
Memphis, Tenn.*

It is not my purpose in bringing this subject before you to differentiate as to the extent of a tuberculous process within the peritoneal cavity or to discuss to any great extent the question of virulence of the causative factor—the tubercle bacillus. Suffice it to say that in discussing peritoneal conditions the tendency is often to confuse the subject.

For example, the belly is pronounced as being full of pus and that this, that or the other thing was done and as a result the patient re-

*Read before Tri-State Medical Association meeting.

covered. It could probably also be said that pus in another case was extremely limited and yet the patient died in spite of the same particular method of treatment. The question of virulence in bacterial infection is to be constantly borne in mind since certain strains of streptococci seem to be more virulent than others and again since staphylococcus infection is of less virulence than streptococcic infection. Then again enthusiastic cohorts with more vigor than grace will talk of diffuse general peritonitis the pus extending from the diaphragm to the pubis in spite of which the patient recovered. In all probability this man has in mind the fact that the diaphragm is the most absorbent surface of the peritoneum and that the reason for this particular patient's recovery was due to the large gut being in the way, the germs being too lazy to climb over the transverse colon and infect the diaphragmatic peritoneum. Virulence plays the same part in peritoneal tuberculosis as it plays in streptococcic or staphylococcic or mixed peritoneal isvasios. Likewise the resistance of the individual has to be taken in to account. One patient will begin to show symptoms of peritoneal tuberculosis slowly and will slowly but surely recover under favorable surroundings. Another who may have received the infection from the same source will develop the rapid ulcerative type and die perhaps even before the diagnosis of the condition is made.

The same picture is seen in tuberculosis of the lungs. One individual will develop the premonitory signs of tuberculosis, run a mild temperature, have a little hacking cough, lose flesh and show a slight infiltration at the apex of apices of the lungs and under fresh air and forced feeding quickly recover; another will be seized with a stitch in the side, high temperature and grunting respiration and many of the other characteristics of a frank pneumonia which the condition is thought to be and after resolution does not take place the condition is put down as delayed resolution when in reality it was pneumonic phthisis or galloping consumption from the beginning. Thus virulence on the part of the infective agent and resistance on the part of the individual are matters of no small importance in the discussion of this subject. And since I desire to lend particular em-

phasis to tuberculous peritonitis as it affects children it is pardonable to review the fact that the so-called diseases of childhood, the scarlet fever, the measles, the whooping-cough—all preventable diseases—are frequently, by lowering the resistance of the child, responsible for predisposing him to tuberculosis.

To discuss the mode of infection would be truly the waving of the red flag at the proverbial bull. Suffice it to say that infection at least in children takes place more frequently through the alimentary canal than is usually supposed and therefore possibly tuberculous peritonitis is not as rare as it is thought to be. English authorities figure this mode of infection at from 25 per cent to 30 per cent of all cases. The figures of American pathologists are much lower. German pathologists voicing perhaps the teachings of the late lamented Robert Koch who held that the organism of bovine tuberculosis was not the same as that of human tuberculosis holds that primary peritoneal tuberculosis is very rare, while Marfan, the French pediatricist, places the frequency of primary intestinal tuberculosis at 87 per cent.

The lymphatic trunks draining the peritoneum run up in to the thorax especially to the anterior mediastinal gland; bacteria having been recovered from the gland after their experimental introduction within the peritoneal cavity within six minutes. This cavity is capable of absorbing fluids to the extent of 1-10 the body weight within half an hour and solid particles experimentally introduced are rapidly carried upwards toward the diaphragm through which they are rapidly siphoned by the diaphragmatic movements to pass into the anterior mediastinal glands and per contra as a result of peritoneal irritation peritoneal fluid will also be poured out rapidly.

In acute or very acute conditions this absorptive power is lessened from venous engorgement and backward pressure, from lymphatic obstruction and because it is painful to breathe—the less vigorous action of the diaphragm and the other respiratory muscles. Rapid absorption therefore accounts for rapid poisoning and rapid death in diffuse peritonitis.

The peritoneum in the course of general tuberculosis is invaded in from 10 to 20 per

cent of cases: In 306 cases analyzed by Faludi under the age of fifteen years nearly half were between the ages of 3 and 7 years and the sex incidence was equal. The preponderance of females in operative cases is probably due to infection through the fallopian tubes which are frequently primarily infected, and this fact is made still more significant by Howard Kelly who states that abortion is a predisposing factor probably as a result of unclean induction or curettage.

Raw takes the position that peritoneal tuberculosis in children is of bovine type and is brought about by the ingestion of tuberculous food. The writer shares this opinion and here wishes to express the hope that this particular point may be emphasized by the members present and brought out pro or con, in the discussion.

Clinically tuberculous peritonitis is usually secondary. It is however, primary oftener than is usually thought or taught. Three forms are recognized:

1st. The acitic form with more or less rapid fluid accumulation.

2nd. The suppurative or ulcerative form.

3rd. The obliterative form.

4th. A combination of these conditions.

The spleen and liver are usually both enlarged. In boys the subject of congenital inguinal hernia the tunica vaginalis testis may become involved and hydrocele result. This occurred in one of the writer's cases. The abdominal wall showed marked enlargement of the superficial veins in all cases seen.

The two cases of primary peritoneal tuberculosis studied presented a rather uniform clinical picture which afforded comparatively easy recognition after the recognition of the first case. In considering these cases as primary it is only right to state that no evidence of tuberculosis was discernible in any other part of the body. Both patients were boys, one 5, the other 7 years of age; both recovered without operation and are alive and perfectly well today, one 6 years and the other 5 years after the appearance of the disease.

The symptoms may be conveniently grouped in the following order:

1st. Loss of flesh.

2nd. Increased pulse rate.

3rd. Disinclination to play—lack of endurance.

4th. Inclination to lie around.

5th. Constipation alternating with diarrhoea accompanied with colic, the actions having an appearance of chewed rags.

6th. Vomiting—independent of taking food.

7th. Slight evening rise of temperature 100 or 101 F

8th. Colliquative sweats.

9th. Marked prominence of superficial veins.

10th. Ascitis.

11th. Mild localized or general abdominal tenderness.

12th. Localized intestinal tumefaction.

13th. Localized dullness on percussion at one or more points on the abdomen.

14th. Absence of leucocytosis.

15th. Absence of Widal reaction.

16th. Positive reactive to tuberculin.

Complete recovery took place in the two cases already quoted under:

1st. Rest.

2nd. Diet and later forced feeding.

3rd. Fresh air and general hygienic measures.

4th. The internal administration of iron and arsenic.

5th. The careful and methodic application of the X-rays for which the writer is indebted to Dr. W. S. Lawrence.

The injection of vaccine has not been productive of results in my hands and therefore was not used in the treatment of these cases.

Laparotomy furnished in Konigs hands, 84 recoveries out of 131 cases. Just why this should occur is not altogether satisfactorily explained. If improvement does not follow the measures above outlined laparotomy should be done in the ascitic cases; the ulcerative cases are not improved thereby although the writer has knowledge of a prominent Chicago surgeon who operated on his own child doing an extensive intestinal resection with apparently complete cure. This only serves to still further emphasize the possibility of primary peritoneal infection, likewise the value of fresh air and forced feeding.

TENNESSEE'S NEEDS IN LEGISLATION.*

BY DR. S. R. MILLER,

Knoxville.

Taken as a whole, the United States is behind practically all of the educated and progressive nations of the world, both in the requirements for medical license and in laws of medical character.

The states composing our union have their respective laws, but there is little uniformity in them and but few have laws that can be considered ideal. There is need of greater uniformity, and some effort is now being made by our leading medical associations to bring about uniform laws, with such minor modifications as are found necessary to meet local conditions. Few, if any, of the states have fallen farther short of ideal conditions than Tennessee. Why is this commonwealth, of which we are so proud, so far behind other countries and our sister states? It is due in part to the medical profession, but largely to our lawmakers. Medical men are responsible for this, only, in that the great mass of them have been ignorant or indifferent to the condition. Many of them have been educated in the best schools of this country, and abroad, and stand high in the professional world and are among the advocates of the elevation of our educational standards and the improvement in our medical laws.

The low standard of our medical practice statute, and the lax requirements of some of our local schools, has flooded our state with many unfit, who took up their work within our borders because they were unable to meet the requirements in the state of their choice.

A few members of our profession have not been indifferent to our needs, but have worked hard to attain better conditions both in medical ranks and medical laws. To such we give due credit.

Likewise, our legislators have not been entirely indifferent to our needs, but they have been caught in the whirl of the political game, and

have yielded to the greater pressure of lobbyists which have crowded out matters medical. Such was the fate of more than one good bill in the last General Assembly.

It may be said, however, to the great credit of both the legislature and the profession, that we have an excellent pure food and drug law, modeled after our federal law and superior to that of most of our sister states. It is perhaps the most potent factor we have for conservation of health and life in our commonwealth. Its full effect, however, has not yet been obtained, because of lack of sufficient funds to properly enforce the law. A larger and better laboratory, with additional chemists and field men, are greatly needed to enforce many of its provisions and prosecute violations. An important duty of those working under this law should be to educate the people and instruct them in the direction of their own efforts for the protection of others as well as themselves.

MEDICAL PRACTICE ACT.

There is need of improvement in our medical practice act. The present law was enacted as a compromise rather than have all former laws repealed and none left upon our statutes. In many respects it is a good law, but is quite defective on some points. No undergraduate should be given a permanent license. Likewise, a diploma of such a standard should be required as will eventually secure reciprocity with other states—at least those of the South and adjacent Northern and Western states. To another member has been assigned the discussion of this portion of the subject.

MODEL VITAL STATISTICS.

A model vital statistics law should be enacted by our next legislature. The Federal Statisticians and Director of Census have requested such a law in each state. Many states already have such a law, and all progressive legislatures will enact this needed law to open the way to a better and more complete Federal Census. Such a law would place Tennessee in the registration area whereby we could know and the scientific world could learn our good and our weak points.

STATE HYGIENIC LABORATORY.

A State Hygienic Laboratory would be of very great value to our state. The cities with med-

*Read before Knox County Medical Society December, 1912.

ical schools supplied with laboratories or boards of health, with a regularly employed laboratory expert, do not feel the need of a state laboratory as those in the town and country districts do. Again, the physicians and the people in the rural sections, have not had the advantages of such a laboratory, and are not yet in position to appreciate the great advantage and help that a well directed State Hygienic Laboratory would be in the conservation of life and arrest of disease, and eradication of epidemics among the people. Every physician in city, or town, or country, should have access to such a laboratory, whereby diphtheria smears, typhoid blood or discharges, tubercular sputum, etc., could be examined and properly diagnosed before the disease has passed beyond cure or had spread in the community.

MEDICAL INSPECTION OF SCHOOL CHILDREN.

Medical inspection of school children is one of our great needs. The innocent, ignorant child with physical defects, is classed with the normal one, and because of its slow progress is adjudged stupid. There are many defects capable of correction, and, for the permanent ones there should be a classification whereby such children should be given just such work and study as is consistent with their physical condition. Thus the child may be properly protected, and the state saved useless expenditure in trying to force the child to do an impossible task. Some one may say that is the duty of the parent and the teacher. The parent perhaps had the same defect and thinks the child normal because like the parent, and the teacher is usually not trained in such matters, and only knows that the child is stupid or wrong in some way. Again, both parents and teachers are so burdened with other cares, and by constant contact with defective children, are prone to overlook them, as one especially trained and delegated to such work, would not do.

Another value of medical inspection would be the early detection of contagious and infectious diseases. Thus many severe illnesses, and some deaths could be prevented. If all parents were sufficiently educated and experienced, and would follow the golden rule, inspection would not be so necessary. Recently I knew of a widowed mother, treating a case of diphtheria, in a child,

with sulphur and other local remedies, and taking known chances on her child's life, rather than call a physician who would report the case and thereby debar the other children of the family from school for several weeks. The majority of the parents are not so, but there are many such, who risk the health and lives of their own children and care much less for the welfare of others.

A bill providing for the medical inspection of school children was introduced in the last legislature, and I think was recommended for final passage, notwithstanding the active opposition of the Association of Medical Freedom who had expensive attorneys lobbying against its passage. Their plans were well laid and carefully executed. Several telegrams and letters were sent from this city to our representatives in the legislature, and when I learned of them, I asked for the names of some of them and learned that they were unknown individuals, with possibly a few exceptions. I asked for addresses, and learned that they were in the illiterate or unknown section of the city. I challenged them to produce the name of a reputable medical practitioner or public-school teacher from his large list, and it was not done.

MALPRACTICE SUITS.

The question of malpractice suits should also receive some attention. The number of these suits are increasing from year to year, and the rate of insurance against these, in Tennessee, has more than doubled in the last decade. Probably the large majority of these are brought by paupers after taking paupers oath. Of the small per cent not suing under paupers oath act, nearly all are brought for the purpose of preventing collection of medical or surgical fee for service rendered. Thus the former class tries to get something for nothing from their benefactor, and incurs great expense to the state, and the latter class tries to avoid an honest debt for service rendered. More than ninety per cent of such cases are brought by lawyers with few clients and who are very poor judges of justice between man and man or only hope to attract to themselves some attention at the expense of the state and annoyance of the physician. Well-established and well-reputed lawyers rarely ever bring such suits.

It is estimated that twenty-five per cent of the work of physicians is done without any compensation whatever. Certainly no other class does more for charity. Should they not be protected against the designing patient and the selfish lawyer? I do not wish to prevent any suit based on real merit. If there is true malpractice, then the physician should suffer his punishment but he should not have to defend his professional character and purse because some lawyer wants to push himself into prominence at the commonwealth's expense and the physician's professional damage, or because some patient wishes to evade a bill for service rendered. If the lawyer would investigate the real merits of both sides of such cases and act honestly before attacking a man's character, and if a judge could hear both sides from the plaintiff and defendant without any lawyer to coach or suppress the real facts, before suit be permitted without bond, both for the costs and the possible damage to the reputation of the physician, I believe greater justice would be done to all citizens. If the judge sees no merit in the case, and the lawyer has a different opinion, he should be allowed to give bond and prosecute the case.

CELMO.

Celmo, a patent medicine sold as a cure for rheumatism, shows how a commonly-used, well-known drug may be put out under a fancy name, exploited by fraudulent claims and foisted on the public as something entirely new. While sold as an entirely new method of treating rheumatism; an analysis made by the British Medical Association and published in "Secret Remedies," vol. 2 indicates that its chief constituent is the widely used acetyl-salicylic acid or aspirin. The analysts reported this "wonderful new remedy" to consist of: acetyl-salicylic acid, 35.5 per cent; powdered charcoal, about 8.0 per cent; malt extract, dry, 18.0 per cent; talc, 14.5 per cent; other mineral constituents 2.8 per cent; water, 12.3 per cent; alkaloid, 0.5 per cent; extractive, about 8.0 per cent; oleo-resin of capicum, trace, and oil of juniper, trace (*Jour. A. M. A.*, Oct. 19, 1912, p. 1472).

PRESIDENTIAL ADDRESS AN APPEAL FOR THE CO-OPERATION OF THE LAITY AND THE MEDICAL PROFESSION IN PUBLIC HEALTH MATTERS.*

BY C. L. GOODRICH, M. D.,

Fayetteville.

It is a well-recognized fact that the medical profession is the only one which as a whole is laboring to so change and modify existing conditions which now constitute its means of remuneration as to ultimately result in a marked decrease in its already meagre revenue.

Striving as it does through its health boards and scientific investigations to discover the cause and eradicate the source of disease it strikes at the very fountain-head of its means of subsistence as based upon the prevailing method now employed of paying only for the service of physicians when disease is actually present and not as is more rational, for their advice and counsel and co-operation in the prevention of its occurrence.

It is popularly believed by all Americans that we are several centuries in advance of China in all things, and yet the Chinaman pays his doctor while the patron is well and refuses to pay him when he permits him to be sick.

I do not mean to argue from this premise for contract practice, for all physicians have seen the evils of this unethical procedure, but I do mean to insist that it is wisdom on the part of the general public to assist in all the ways possible the preventive measures desired by an awakened medical profession for the curtailing of disease and the promotion of the physical well being.

To stimulate the medical profession to greater efforts along the lines suggested a different system of payment for services rendered should be instituted.

Why should the doctor voluntarily go to his patron and insist that he do away with a pond or malarial swamp near his home, which will

*Read before Middle Tennessee Medical Association at Shelbyville, November, 1912.

eventually result in the increase of the doctor's visits to that home and a consequent increase of revenue to him, any more than a member of any other profession should offer advice hurtful to his business? I am glad to be able to assert that the average physician does not stoop to consider this low plane upon which the public generally base their service one toward another. However the competition is becoming so keen and the different fields of medicine so crowded that it is becoming more and more necessary for the physician to be paid for such advice. No one hesitates to pay the lawyer for expert advice in legal matters and yet there seems to be a tacit agreement that medical advice unless accompanied by a prescription, is not worth anything, whereas the sensible way to look at the matter would be to gratefully pay a fee that would prevent the necessity of taking expensive drugs even though the advice only restricted a too complete menu or caused the patient to exercise when he didn't want to do it.

Some of the things in which the medical profession hope to have your co-operation I will briefly mention.

Intelligent schoolteachers have been endorsed by the medical profession the world over in their demands for better lighted, more comfortable, and well-ventilated schoolrooms. Urged on by the local physicians, the directors of many country schoolhouses have seen the danger of the location of the cesspools or open privies upon the hillsides just above the school springs, and have corrected many of these evils. Again they have delved into the question of the source and quality of the drinking water until they no longer permit the use of surface or wet weather springs and thus avoid many outbreaks of typhoid fever.

A step further is needed in this direction very badly by our great state and the medical profession is asking you to endorse it, viz.: "Medical Inspection of School Children."

First, for the suppression of contagious diseases and better still for their prevention as these diseases most usually begin there or are rapidly disseminated from this center when once infected.

Second, for the discovery of the mental or physical defects of the boy or girl which defects prevent them from getting the benefits of

education so readily grasped by their more fortunate classmates. Who among you has not seen instances of unfortunate children whose physical or mental condition actually prevented their successfully doing the work required of them in the schoolroom?

Examples of mental deficiency:

M. H.——entered school when about nine years old and for several years made conscientious efforts to keep up with his classes. It was soon observed by his teachers that no mathematical problem seemed too hard for him and he easily lead his classes in this branch of his studies and could even retain dates in memory long after others would forget them, being able to tell almost immediately what day of the week or month small incidents occurred that made very little impression upon others. However in his other studies he could make absolutely no progress, although he was tried out faithfully by several very proficient teachers until their patience was exhausted. This case simply illustrates the need for a physician with which the teacher may confer for the best interest of the mentally deficient.

H. Y.——Son of a physician, has been given a trial by three different schools and, according to their report, is unable to grasp anything because of deficient memory. These two examples illustrate opposite types of mental deficiency.

Mr. G.——A young man, 24 years old, robust, ruddy cheeked, and the picture of health, entered Vanderbilt University, Medical Department, in 1897. He had been a steel worker in the Birmingham district and had acquired the rudiments of a common school education. This poor fellow was tried out thoroughly by one professor after another but the faculty of memory was so deficient that he was advised before the year was out to go back to manual labor as it seemed impossible for him to pass any kind of examination requiring mental effort.

Prof. W.——told me of another young man who simply could not make any progress in his books and thinking that perhaps he himself was at fault the professor sent the boy to another school where he hoped under different environment and with the best of instructors he might make the necessary progress. This also failed to get results even though the boy made faithful efforts to do what was required of him.

What a waste of energy and effort to endeavor to hold this defective young man up to the standard of the other young men in his class, and again how hurtful to the strong and normally developed is the system of holding them back in order that the weak and abnormal one may keep up with their progress.

The physically deficient present even more pronounced examples of the great need for medical examination of school children.

Gladys C.——The twelve-year-old daughter of a physician, had led her classes and was considered a model student by her teachers. Gradually she began to lose interest in her studies and in a short time could hardly keep up with her classmates whereas heretofore she had led them easily. Parents and teachers urged her to greater effort and the poor child actually became offended with her teacher of whom she had previously been very fond. Finally the father of the child and the teacher observed that when studying she held the book almost against the face and when an examination of her eyes was made by a competent specialist it was discovered that she had only one-half the needed vision and when this deficiency was corrected she promptly resumed her place at the head of her classes.

Minnie B.——age 17, was such a sufferer from headaches during the school term that it became necessary to stop her from school until she could be properly fitted with glasses and then her headaches were relieved as if by magic.

Again a rank injustice is often done the child who, because of neglected adenoids or infected tonsils followed frequently by middle ear disease, is so deaf that it is impossible for him to catch the low spoken words of the teacher and is actually punished for it.

In my own schooldays we had a teacher who was an inveterate tobacco user and this man or brute kept the room as hot as two large stoves could make it without any ventilation and filled to its capacity with tobacco smoke. No wonder he had to use the rod frequently to keep us awake and I am sorry to say that he felt his duty so to do and did it.

A most pitiable case came to my notice as follows:

Annie D.——a young girl, ten years old, with a certain type of kidney disease, was re-

peatedly refused the request to leave the room until the regular recess hour by a teacher who had been told by the child's mother about the malady with which the child suffered, and this child had to be removed from school because of the obstinacy of a teacher who had a set of ironclad rules for all her pupils.

Again have you not seen the pale, emaciated, debilitated, hookworm case associating freely with the young, vigorous, robust child and wondered why some one did not isolate and cure the sick one before the other became infected? Who has the authority now to say that the child coughing his life away with incipient tuberculosis and expectorating millions of deadly germs daily to be passed on to your lovely young daughter or your ambitious young son, shall not remain in that school to be a menace to his school mates and through them on to generations yet unborn?

What teacher has the ability or the courage to say to the unhappy, unfortunate parents, your child is mentally defective and, instead of remaining here to be the laughing stock of thoughtless playmates should have his chance to make the best possible out of the few talents he may possess, *in a school especially set apart for the education and development of just such unfortunate cases.*

The medical inspector's duty would be to call attention to these deficiencies and by the proper suggestions help the parents and their family physician to remedy the defects when possible or at least to place the child where it would suffer least because of the insufficiency and no longer have a hurtful influence upon others.

In the language of the British Board of Education, "Medical inspection of school children seeks to secure ultimately for every child, normal or defective, conditions of life compatible with the full and effective development of its organic functions, its special senses, and its mental powers, which constitute a true education."

It is national in its scope in England, France, Belgium, Switzerland, Bulgaria, The Argentine Republic, and practically so in Germany.

In the United States, Massachusetts, Vermont, Connecticut, Virginia, and several other states have some law of this kind and nearly all of the larger cities including our own capital city,

Nashville, have municipal laws covering the same ground.

But it is high time that as a state our legislature should take up the matter and if you as a citizen will do your duty in exerting influence with your representatives in that body we can and will take a decided step forward in the educational development of our children.

Among other great needs is a state hygienic laboratory.

With this laboratory for the benefit especially of the physicians of the rural districts, we could hope for more accurate diagnosis and more certain treatment of diseased conditions as well as the rapid location of the source of epidemics of typhoid fever and other infectious and contagious diseases. In Florida it is not permitted for a doctor to positively diagnose a malarial or typhoid fever until he has sent a sample of the blood to one of the state laboratories for examination. This prevents haphazard giving of drugs in those cases of fever which haven't clinically shown whether they are malarial or typhoid.

There are many other uses to which this state laboratory may be put and they are all for the benefit of the general public. It is needless to say that the medical profession is for it because it is progressive step and the medical profession is for any progressive measure that will result in greater usefulness to the patrons they serve.

One of the greatest drawbacks to hygienic progress in our state is the lack of interest our country courts take in the selection of our county health officers. In the first place they are handicapped by the meagre salaries they agree to pay these health officers. This will usually not be over \$200 per year. *Think of it, only \$200 for the most valuable work the county can undertake:*

Very often the amount is not even half this small amount. No self-respecting physician can or will accept such a position.

In many counties the position is simply a political sinecure without pay, except as the unscrupulous health officer may pad his case reports of contagious diseases and thus puts a premium on the very existence of these diseases and an indifference, to say the least of it, to their suppression which costs the counties untold anxiety, much unnecessary suffering, and

the loss of many valuable lives, besides the monetary loss from the effect of the very presence of these diseases upon the business interests of any community in which they are allowed to exist.

The medical profession is asking the general public to co-operate with them in having the county health officers placed upon definite salaries sufficient to have them devote their full time to that service.

Again they would ask that you would permit the county medical societies to select the man and recommend him to the county court, thus assuring that an ethical, non-political, physician shall get the position.

In my own county at a meeting of the county court we had two applicants for the position of county health officer, this office paying \$200, neither of whom was a member of the county, Middle Tennessee, or Tennessee State Medical Societies, and the successful applicant got the position by saying, "Gentlemen of the County Court, there is a question being agitated by some of the medical profession and others in which the majority of you, being from the country, should be very much interested. As you all know it is the custom when you drive into town to hitch your horse to the fence surrounding the court house grounds in the shade of the beautiful trees. Now, gentlemen, it is claimed by the doctors advocating the removal of this fence that this custom causes the flies to be very bad in the business part of the town and is inimicable to the health of our citizens. I simply desire to say that if I am elected as your county health officer, I shall oppose the movement of this fence with all the influence I possess on the ground that we should not interfere with this cool pleasant place for your horses to stand during the long hot summer days while you do your trading."

I am told that this is almost the verbatim report of the doctor's speech to the court and I regret to say that it resulted overwhelmingly in his election.

This "inhumanity of man to man" rather than to his beast is again presented in mass by the awful spectacle of thousands of children under fifteen years of age, slaving away that a big brutal hulk of a man, by blood their father might have an easy time in the battle for bread.

Growing up in ignorance and vice, losing all the sweet innocent joys of childhood with its roseate dreams, its wonderful hopes, and its still more wonderful promises, slaving away in the dust-laden air of the cotton mill or factory, filling their tender young lungs with germ laden dust, and their still more precious characters with the grime of sin and the hopelessness of despair, in order that the factory owners may go on piling up the dividends and take their toll of human blood. Our humane societies will not permit a man to drive a horse which is plainly too weak to do the work required of him, and yet is not the child, made in the image of God, worth many thousand horses? The child labor problem is here and must be solved by an intelligent public and the medical profession wants to help you in solving it. In order to solve it rationally we must have a "Vital Statistics Law" requiring that physicians record the births and deaths that occur in their practices.

It is a common occurrence for factory inspectors to see small children working in the factories whose general appearance would indicate that they were far under the age limit in that state permitting their employment, and yet if the scoundrel who claims to be their father swears that they are of a certain age there is no way, unless a physician has registered the birth, to prove that he is misrepresenting the matter.

Realizing the great need for such a law, Mr. Gompers, president of the American Federation of Labor, in his annual report in 1910, emphasizes the importance of vital statistics as a means of regulating and enforcing the child labor laws and shows the importance of such laws to labor organizations.

In order to preserve legal records in many cases it is absolutely necessary to know the birth history of the beneficiary of a legacy. As an illustration of this need, Dr. Hurty, of the Indiana State Board of Health, tells the following story: "Farmer Hadley, of Indiana, dying left his valuable farm in trust to his unthrifty son, to go to his granddaughter on her twenty-first birthday. The girl had been told the day of her birth and always celebrated as her birthday the annual recurrence of the same. However when she thought she was twenty-one and

claimed her inheritance, her father denied her age, saying she was only nineteen. The family Bible was consulted but the leaf with the record was gone. The court was in a quandary. A Solomon was needed for judgment. At last a neighbor remembered that a valuable cow belonging to the grandfather, had given birth to a calf on the day the girl was born, and he could swear to it. Perhaps the grandfather had recorded the date of the birth of the calf. His farm books showed this to be the case. *The date of the birth of the human being was established.*"

The practical sanitarian is utterly at sea without vital statistics on which to base his work. Dr. Rankin, of the North Carolina State Board of Health, says, I have found vital statistics worth more than all other considerations in moving thoughtful, practical, men to intelligent and effective interest in the importance of the public health of their localities.

The commercial value of accurate knowledge of the death rate is yearly receiving greater recognition. It is a deplorable fact that the immigration of farmers to certain portions of Tennessee has decreased recently and, to a large extent, I believe this is due to a lack of reliable data as to the healthfulness of our state.

For example, it is commonly reported that our state has a high mortality from tuberculosis, and yet we have no way of disproving the assertion unless we had a system of compulsory registration of deaths upon which to base our calculations.

There is certainly an enormous infant mortality in the state as well as every other state in the Union, and yet without knowing the cause of this great death toll, no preventive measures can be instituted to bring about a decrease in this fearful state of affairs.

It is hoped and expected that every good citizen will co-operate with the medical profession in the effort to have our representatives in the next legislature pass dependable laws.

(a) "For the Medical Inspection of School Children."

(b) "For the Establishment of a State Hygienic Laboratory."

(c) "For a Full-time County Health Officer."

(d) "For Vital Statistics Registration."

PRINCIPLES OF MEDICAL ETHICS

CHAPTER I

The Duties of Physicians to Their Patients

THE PHYSICIAN'S RESPONSIBILITY.

SECTION 1.—A profession has for its prime object the service it can render to humanity; reward or financial gain should be a subordinate consideration. The practice of medicine is a profession. In choosing this profession an individual assumes an obligation to conduct himself in accord with its ideals.

PATIENCE, DELICACY AND SECRECY.

SEC. 2.—Patience and delicacy should characterize all the acts of a physician. The confidences concerning individual or domestic life entrusted by a patient to a physician, and the defects of disposition or flaws of character observed in patients during medical attendance should be held as a trust and should never be revealed except when imperatively required by the laws of the state. There are occasions, however, when a physician must determine whether or not his duty to society requires him to take definite action to protect a healthy individual from becoming infected, because the physician has knowledge, obtained through the confidences entrusted to him as a physician, of a communicable disease to which the healthy individual is about to be exposed. In such a case, the physician should act as he would desire another to act toward one of his own family under like circumstances. Before he determines his course, the physician should know the civil law of his commonwealth concerning privileged communications.

PROGNOSIS.

SEC. 3.—A physician should give timely notice of dangerous manifestations of the disease to the friends of the patient. He should neither exaggerate nor minimize the gravity of the patient's condition. He should assure himself that the patient or his friends have such knowledge of the patient's condition as will serve the best interests of the patient and the family.

PATIENTS MUST NOT BE NEGLECTED.

SEC. 4.—A physician is free to choose whom he will serve. He should, however, always respond to any request for his assistance in an emergency or whenever temperate public opinion expects the service. Once having undertaken a case, a physician should not abandon nor neglect the patient because the disease is deemed incurable; nor should he withdraw from the case for any reason until a sufficient notice of a desire to be released has been given the patient or his friends to make it possible for them to secure another medical attendant.

CHAPTER II.

The Duties of Physicians to Each Other and to the Profession at Large

ARTICLE I.—DUTIES TO THE PROFESSION

UPHOLD HONOR OF PROFESSION

SECTION 1.—The obligation assumed on entering the profession requires the physician to comport himself as a gentleman and demands that he use every honorable means to uphold the dignity and honor of his vocation, to exalt its standards and to extend its sphere of usefulness. A physician should not base his practice on an exclusive dogma or sectarian system, for "sects are implacable despots; to accept their thralldom is to take away all liberty from one's actions and thought." (*Nicon, father of Galen.*)

DUTY TO MEDICAL SOCIETIES

SEC. 2.—In order that the dignity and honor of the medical profession may be upheld, its standards exalted, its sphere of usefulness extended, and the advancement of medical science promoted, a physician should associate himself with medical societies and contribute his time, energy and means in order that these societies may represent the ideals of the profession.

DEPORTMENT.

SEC. 3.—A physician should be "an upright man, instructed in the art of healing." Consequently, he must keep himself pure in char-

acter and conform to a high standard of morals, and must be diligent and conscientious in his studies. "He should also be modest, sober, patient, prompt to do his whole duty, without anxiety; pious without going so far as superstition, conducting himself with propriety in his profession and in all the actions of his life." (*Hippocrates.*)

ADVERTISING.

SEC. 4.—Solicitation of patients by circulars or advertisements, or by personal communications or interviews, not warranted by personal relations, is unprofessional. It is equally unprofessional to procure patients by indirection through solicitors or agents of any kind or by indirect advertisement, or by furnishing or inspiring newspaper or magazine comments concerning cases in which the physician has been or is concerned. All other like self-laudations defy the traditions and lower the tone of any profession and so are intolerable. The most worthy and effective advertisement possible, even for a young physician, and especially with his brother physicians, is the establishment of a well-merited reputation for professional ability and fidelity. This cannot be forced, but must be the outcome of character and conduct. The publication or circulation of ordinary simple business cards, being a matter of personal taste or local custom, and sometimes of convenience, is not *per se* improper. As implied, it is unprofessional to disregard local customs or offend recognized ideals in publishing or circulating such cards.

It is unprofessional to promise radical cures; to boast of cures and secret methods of treatment or remedies; to exhibit certificates of skill or of success in the treatment of diseases; or to employ any methods to gain the attention of the public for the purpose of obtaining patients.

PATENTS AND PERQUISITES

SEC. 5.—It is unprofessional to receive remuneration from patents for surgical instruments or medicines; to accept rebates on prescriptions or surgical appliances, or perquisites from attendants who aid in the care of patients.

MEDICAL LAWS—SECRET REMEDIES.

SEC. 6.—It is unprofessional for a physician to assist unqualified persons to evade legal restrictions governing the practice of medicine; it is equally unethical to prescribe or dispense secret medicines or other secret remedial agents, or manufacture or promote their use in any way.

SAFEGUARDING THE PROFESSION.

SEC. 7.—Physicians should expose without fear or favor, before the proper medical or legal tribunals, corrupt or dishonest conduct of members of the profession. Every physician should aid in safeguarding the profession against the admission to its ranks of those who are unfit or unqualified because deficient either in moral character or education.

ARTICLE II.—PROFESSIONAL SERVICES OF PHYSICIANS TO EACH OTHER.

PHYSICIANS DEPENDENT ON EACH OTHER.

SECTION 1.—Experience teaches that it is unwise for a physician to treat members of his own family or himself. Consequently, a physician should always cheerfully and gratuitously respond with his professional services to the call of any physician practicing in his vicinity, or of the immediate family dependents of physicians.

COMPENSATION FOR EXPENSES.

SEC. 2.—When a physician from a distance is called on to advise another physician or one of his family dependents, and the physician to whom the service is rendered is in easy financial circumstances, a compensation that will at least meet the traveling expenses of the visiting physician should be proffered. When such a service requires an absence from the accustomed field of professional work of the visitor that might reasonably be expected to entail a pecuniary loss, such loss should, in part at least, be provided for in the compensation offered.

ONE PHYSICIAN TO TAKE CHARGE.

SEC. 3.—When a physician or a member of his dependent family is seriously ill, he or his family should select a physician from among his neighboring colleagues to take charge of the

case. Other physicians may be associated in the care of the patient as consultants.

ARTICLE III.—DUTIES OF PHYSICIANS IN CONSULTATIONS.

CONSULTATIONS SHOULD BE REQUESTED.

SECTION 1.—In serious illness, especially in doubtful or difficult conditions, the physician should request consultation.

CONSULTATION FOR PATIENT'S BENEFIT.

SEC. 2.—In every consultation, the benefit to be derived by the patient is of first importance. All the physicians interested in the case should be frank and candid with the patient and his family. There never is occasion for insincerity, rivalry or envy and these should never be permitted between consultants.

PUNCTUALITY.

SEC. 3.—It is the duty of a physician, particularly in the instance of a consultation, to be punctual in attendance. When, however, the consultant or the physician in charge is unavoidably delayed, the one who first arrives should wait for the other for a reasonable time, after which the consultation should be considered postponed. When the consultant has come from a distance, or when for any reason it will be difficult to meet the physician in charge at another time, or if the case is urgent, or if it be the desire of the patient, he may examine the patient and mail his written opinion, or see that it is delivered under seal, to the physician in charge. Under these conditions, the consultant's conduct must be especially tactful; he must remember that he is framing an opinion without the aid of the physician who has observed the course of the disease.

PATIENT REFERRED TO SPECIALIST.

SEC. 4.—When a patient is sent to one specially skilled in the care of the condition from which he is thought to be suffering, and for any reason it is impracticable for the physician in charge of the case to accompany the patient, the physician in charge should send to the consultant by mail, or in the care of the patient under seal, a history of the case, to-

gether with the physician's opinion and an outline of the treatment, or so much of this as may possibly be of service to the consultant; and as soon as possible after the case has been seen and studied, the consultant should address the physician in charge and advise him of the results of the consultant's investigation of the case. Both these opinions are confidential and must be so regarded by the consultant and by the physician in charge.

DISCUSSIONS IN CONSULTATION.

SEC. 5.—After the physicians called in consultation have completed their investigations of the case, they may meet by themselves to discuss conditions and determine the course to be followed in the treatment of the patient. No statement or discussion of the case should take place before the patient or friends, except in the presence of all the physicians attending, or by their common consent; and no opinions or prognostications should be delivered as a result of the deliberations of the consultants, which have not been concurred in by the consultants at their conference.

ATTENDING PHYSICIAN RESPONSIBLE.

SEC. 6.—The physician in attendance is in charge of the case and is responsible for the treatment of the patient. Consequently, he may prescribe for the patient at any time and is privileged to vary the mode of treatment outlined and agreed on at a consultation whenever, in his opinion, such a change is warranted. However, at the next consultation, he should state his reasons for departing from the course decided on at the previous conference. When an emergency occurs during the absence of the attending physician, a consultant may provide for the emergency and the subsequent care of the patient until the arrival of the physician in charge, but should do no more than this without the consent of the physician in charge.

CONFLICT OF OPINION.

SEC. 7.—Should the attending physician and the consultant find it impossible to agree in their views of a case another consultant should be called to the conference or the first con-

sultant should withdraw. However, since the consultant was employed by the patient in order that his opinion might be obtained, he should be permitted to state the result of his study of the case to the patient, or his next friend, in the presence of the physician in charge.

CONSULTANT AND ATTENDANT.

SEC. 8.—When a physician has attended a case as a consultant, he should not become the attendant of the patient during the illness except with the consent of the physician who was in charge at the time of the consultation.

ARTICLE IV.—DUTIES OF PHYSICIANS IN CASES OF INTERFERENCE.

CRITICISM TO BE AVOIDED.

SECTION 1.—The physician, in his intercourse with a patient under the care of another physician, should observe the strictest caution and reserve; should give no disingenuous hints relative to the nature and treatment of the patient's disorder; nor should the course of conduct of the physician, directly or indirectly, tend to diminish the trust reposed in the attending physician.

SOCIAL CALLS ON PATIENT OF ANOTHER PHYSICIAN.

SEC. 2.—A physician should avoid making social calls on those who are under the professional care of other physicians without the knowledge and consent of the attendant. Should such a friendly visit be made, there should be no inquiry relative to the nature of the disease or comment upon the treatment of the case, but the conversation should be on subjects other than the physical condition of the patient.

SERVICES TO PATIENT OF ANOTHER PHYSICIAN.

SEC. 3.—A physician should never take charge of or prescribe for a patient who is under the care of another physician, except in an emergency, until after the other physician has relinquished the case or has been properly dismissed.

CRITICISM TO BE AVOIDED.

SEC. 4.—When a physician does succeed another physician in the charge of a case, he should

not make comments on or insinuations regarding the practice of the one who preceded him. Such comments or insinuations tend to lower the esteem of the patient for the medical profession and so react against the critic.

EMERGENCY CASES.

SEC. 5.—When a physician is called in an emergency and finds that he has been sent for because the family attendant is not at hand, or when a physician is asked to see another physician's patient because of an aggravation of the disease, he should provide only for the patient's immediate need and should withdraw from the case on the arrival of the family physician after he has reported the condition found and the treatment administered.

WHEN SEVERAL PHYSICIANS ARE SUMMONED.

SEC. 6.—When several physicians have been summoned in a case of sudden illness or of accident, the first to arrive should be considered the physician in charge. However, as soon as the exigencies of the case permit, or on the arrival of the acknowledged family attendant or the physician the patient desires to serve him, the first physician should withdraw in favor of the chosen attendant; should the patient or his family wish some one other than the physician known to be the family physician to take charge of the case the patient should advise the family physician of his desire. When, because of sudden illness or accident, a patient is taken to a hospital, the patient should be returned to the care of his known family physician as soon as the condition of the patient and the circumstances of the case warrant this transfer.

A COLLEAGUE'S PATIENT.

SEC. 7.—When a physician is requested by a colleague to care for a patient during his temporary absence, or when, because of an emergency, he is asked to see a patient of a colleague, the physician should treat the patient in the same manner and with the same delicacy as he would have one of his own patients cared for under similar circumstances. The patient should be returned to the care of the attending physician as soon as possible.

RELINQUISH PATIENT TO REGULAR ATTENDANT.

SEC. 8.—When a physician is called to the patient of another physician during the enforced absence of that physician, the patient should be relinquished on the return of the latter.

SUBSTITUTING IN OBSTETRIC WORK.

SEC. 9.—When a physician attends a woman in labor in the absence of another who has been engaged to attend, such physician should resign the patient to the one first engaged, upon his arrival; the physician is entitled to compensation for the professional services he may have rendered.

ARTICLE V.—DIFFERENCES BETWEEN PHYSICIANS.

ARBITRATION.

SECTION 1.—Whenever there arises between physicians a grave difference of opinion which cannot be promptly adjusted, the dispute should be referred for arbitration to a committee of impartial physicians, preferably the Board of Censors of a component county society of the American Medical Association.

ARTICLE VI.—COMPENSATION.

LIMITS OF GRATUITOUS SERVICE.

SECTION 1.—The poverty of a patient and the mutual professional obligation of physicians should command the gratuitous services of a physician. But institutions endowed by societies, and organizations for mutual benefit, or for accident, sickness and life insurance, or for analogous purposes, should be accorded no such privileges.

CONTRACT PRACTICE.

SEC. 2.—It is unprofessional for a physician to dispose of his services under conditions that make it impossible to render adequate service to his patient or which interfere with reasonable competition among the physicians of a community. To do this is detrimental to the public and to the individual physician, and lowers the dignity of the profession.

SECRET DIVISION OF FEES CONDEMNED.

SEC. 3.—It is detrimental to the public good and degrading to the profession, and therefore unprofessional, to give or to receive a commission. It is also unprofessional to divide a fee for medical advice or surgical treatment, unless the patient or his next friend is fully informed as to the terms of the transaction. The patient should be made to realize that a proper fee should be paid the family physician for the service he renders in determining the surgical or medical treatment suited to the condition, and in advising concerning those best qualified to render any special service that may be required by the patient.

CHAPTER III

The Duties of the Profession to the Public

PHYSICIANS AS CITIZENS.

SECTION 1.—Physicians, as good citizens and because their professional training specially qualifies them to render this service, should give advice concerning the public health of the community. They should bear their full part in enforcing its laws and sustaining the institutions that advance the interests of humanity. They should co-operate especially with the proper authorities in the administration of sanitary laws and regulations. They should be ready to counsel the public on subjects relating to sanitary police, public hygiene and legal medicine.

PHYSICIANS SHOULD ENLIGHTEN PUBLIC—DUTIES IN EPIDEMICS.

SEC. 2.—Physicians, especially those engaged in public health work, should enlighten the public regarding quarantine regulations; on the location, arrangement and dietaries of hospitals, asylums, schools, prisons and similar institutions; and concerning measures for the prevention of epidemic and contagious diseases. When an epidemic prevails, a physician must continue his labors for the alleviation of suffering people, without regard to the risk to his own health or life or to financial return. At all times, it is the duty of the physician to notify the properly constituted public health authorities of every case of communicable disease under his care, in

accordance with the laws, rules and regulations of the health authorities of the locality in which the patient is.

PUBLIC WARNED.

SEC. 3.—Physicians should warn the public against the devices practiced and the false pretensions made by charlatans which may cause injury to health and loss of life.

PHARMACISTS.

SEC. 4.—By legitimate patronage, physicians should recognize and promote the profession of pharmacy; but any pharmacist, unless he be qualified as a physician, who assumes to prescribe for the sick, should be denied such countenance and support. Moreover, whenever a druggist or pharmacist dispenses deteriorated or adulterated drugs, or substitutes one remedy for another designated in a prescription, he thereby forfeits all claims to the favorable consideration of the public and physicians.

CONCLUSION.

While the foregoing statements express in a general way the duty of the physician to his patients, to other members of the profession and to the profession at large, as well as of the profession to the public, it is not to be supposed that they cover the whole field of medical ethics, or that the physician is not under many duties and obligations besides these herein set forth. In a word, it is incumbent on the physician that under all conditions, his bearing toward patients, the public, and fellow practitioners should be characterized by a gentlemanly deportment and that he constantly should behave toward others as he desires them to deal with him. Finally, these principles are primarily for the good of the public, and their enforcement should be conducted in such a manner as shall deserve and receive the endorsement of the community.

THE HABITINA FRAUD.

The promoters of habitina, R. C. Prewitt and Ryland C. Bruce constituting the Delta Chemical Company, were fined \$2,000 and sentenced to five years at hard labor in the United States penitentiary. Habitina was one of those vicious mixtures containing large amounts of morphin which are sold to drug addicts but which in-

stead of curing substitute slavery to a high-priced, fancy-named, morphin mixture for that to the simple opiate itself. In summing up the case the post-office inspectors, in their report, concluded as follows: "The conviction obtained in this case has terminated one of the most pernicious and outrageous frauds ever perpetrated on a credulous public, who were not only defrauded out of large sums of money, ranging from a few dollars to over \$2,000 each, but were robbed of health of body and mind; some were rendered blind and some were made maniacs—how many died under the 'treatment' will never be known—but, taking their own testimonials as a source of information, four out of eight have died drug addicts, and out of the thousands of persons they have treated but one witness could be produced by the defendants to testify in behalf of this drug having any remedial properties whatever. These defendants deliberately fostered the most dreadful forms of drug slavery for their personal gain. They made no effort to cure the patient for the blood-money thus obtained. They produced no evidence which would traverse the contention of the Government that the whole purpose of the defendants was to substitute for the slavery to the drug purchased by the habitue from the corner pharmacist' under the restrictions of state law, the slavery to the same and worse drugs purchased under a disguised name at many times a fair commercial price from the Delta Chemical Co." (*Jour. A. M. A.*, Sept. 7, 1912, p. 817).

A NEW PUBLICITY LAW.

A law is now in effect requiring all newspapers to publish, twice a year, a sworn statement giving the names of their owners and chief stockholders. It also requires them to label as advertisements all editorial and news matter for which they receive pay. Unfortunately scientific periodicals are exempt from its requirements. The law should be made applicable to medical journals as it would be interesting to learn the source from which the financial support of many medical journals is derived. It would also be enlightening to see the "reading notices" and many "original articles" with the tell-tale suffix "(Adv.)". (*Jour. A. M. A.*, Oct. 5, 1912, p. 1299).

THE JOURNAL**OF THE****Tennessee State Medical Association****Office of Publication, Jackson Building, Nashville, Tenn****FEBRUARY, 1913.****EDITORIALS****LEGISLATURE IN SESSION.**

The early struggles for medical laws by our Association, when its roster contained only a few hundred members, is familiar to many and it is humiliating to recall how often they fell in defeat with each succeeding legislature. But it is not so today; we now number nearly two thousand physicians, clearly recognized leaders in the social and intellectual life of their respective communities, to whom the representatives in the legislature *must* lend an ear.

In recent years we have been very successful in securing beneficent laws and all of us remember the terrific opposition to the Pure Food Law; we have also combatted much vicious legislation, but it is still necessary that we remain awake and watch closely every move on Capitol Hill. The Committee on Legislation have kindly furnished us with copies of three bills which they are having introduced, we publish them in full elsewhere in this issue and urge our members to get behind them. Write to your representatives now, don't delay it until tomorrow; invite them to your meetings and urge them to commit themselves in public either for or against these bills. Representatives from Shelby, Knox and Hamilton counties have already attended such meetings and promised their support. Why can't every county in the State do likewise?

CONTRACT PRACTICE.

The following personal letter has recently come to the editor's desk. The question with which it deals is of such interest and importance to the profession in general that we take the liberty of reproducing it in full:

Dear Doctor: Our community is infested with the most abominable form of contract practice. The corporation doing business here has intimidated and coerced their employes and laborers to sign the so-called surgeon's list (of course they have gone about it in such a way that it is next to impossible to reach the guilty parties under our present law, and to do so would make matters personal) until it has grown to about 600 names, all of which agree to pay \$1 per month for medical attention, and same to be withheld from the monthly earnings of the said employe. The corporation advertised for comparative bids to do this contract practice, thus securing the cheapest man under his license to trifle with human life. Two men are doing this work, and I understand that each receives \$100 per month for his services, the corporation furnishing the medicine; so you see the corporation makes an unfair profit off of their employes and laborers. I understand that this policy is pursued by other corporations doing business in Tennessee.

The ——— County Medical Society has indorsed a bill, copy of which is herewith inclosed, intended to repeal Chapter 259 of the Acts of 1889, and contemplates the destruction of contract practice in Tennessee. Now if you find the bill covers the ground, and you are in sympathy with us in our effort to destroy contract practice, will you kindly lend your influence in securing its passage?

Please let me know what you think of the proposition. Inclosed find self-addressed stamped envelope for reply. Yours truly,

This letter portrays in a convincing way one of the most flagrant abuses with which the medical profession has to contend. The case here presented is merely a concrete example of an evil which undoubtedly prevails in many other communities of the State. Contract practice of this type is in its very nature necessarily unfair and fraught with serious menace to all concerned. On the part of a corporation operating such a scheme it is in addition plainly dishonest.

No consideration, except direst poverty, could impel a right-thinking physician to sell his services by the month or year, as the lowest bidder, to a company or corporation without regard to the amount or character of the services

required. Self-respect alone should suffice to deter him. If not, it is hardly to be supposed that regard for the welfare of the human beings who are to be made dependent upon his care will have the slightest effect; and of course the interests of his confreres and the profession at large will appear inconsiderable trifles.

The differences between labor in the ordinary sense and medical services are obvious and fundamental. The former, however skilled, commands fixed wages for a definite object; the latter involves a character of service in the rendering of which the time and effort expended are usually the smallest items to be considered in estimating its value. It is bad enough for a company or corporation to refuse to discriminate between the two. But there is no justification to be made of a scheme enforced by means of a corporation's power over employees, which contemplates or permits the pocketing of a profit for itself under the specious guise of furnishing medical advice at nominal cost.

The solution of the question is a very difficult matter. Just at this time the profession of England is face to face with a nationwide problem involving much the same issue. Will it ultimately be necessary for the profession in self-defense to resort to trades-union methods? It may be so; but the day which marks such a departure from time-honored principles will be a sad one for the profession itself, sadder still for the public.

THE PRINCIPLES OF MEDICAL ETHICS.

Elsewhere in this issue we are publishing the full text of the revised Principles of Medical Ethics as adopted by the House of Delegates at the 1912 meeting of the American Medical Association. This revision is the work of the Judicial Council to which is committed the responsibility of finally passing upon all matters of controversy involving the ethical relations of the profession.

It will be noted that in the present form there are no radical changes either of precept or admonition; but merely a more concise and direct declaration of time-honored principles. Perhaps

the most significant difference is to be found in Article VI, Chapter II, where the evils of contract practice and the secret division of fees are pointed out and unequivocally condemned, instead of, as formerly, being dealt with in general terms. These vicious practices, though indulged in by only a few, unquestionably constitute the most serious evils in our profession today. So flagrant have they become in certain communities that no attempt at concealment is made and even the secular press refers to them with jest and satire.

Let each one of our readers carefully peruse and ponder the principles. If they voice our own personal convictions we may be sure that both they and we are right. If they do not, well,—there must be something wrong somewhere.

NEWS ITEMS.

Dr. L. D. Cotton, formerly of Sparta, Tenn., has moved to Alexandria, Tenn.

Dr. W. M. Crockett, formerly of New Middleton, has moved to Donaldson, Tenn.

The Masonic Grand Lodge dedicated their new hospital in Nashville, January 30.

Dr. W. J. Breeding, formerly of Ravenscroft, has now located in Sparta, Tenn., where he will continue his practice.

Dr. T. J. Coble, of Shelbyville, has been appointed Councilor of the Fifth District, to succeed Dr. W. G. Frierson.

Dr. R. W. Billington, of Nashville, succeeded Dr. Clarence Dixon as Superintendent of Vanderbilt Hospital, Nashville, on January 1.

Dr. W. A. Reed, formerly of Union City, has located in Crossville, Tenn., having sold his interest in Union City to Dr. W. A. Howard.

Dr. W. R. Wallace, of Memphis, has returned from New York where he has been for the past three months, doing post-graduate work in nervous and mental diseases.

Dr. Robert Pillow, of Columbia, has closed his infirmary and will use the Maury Hospital (King's Daughters' Institution), which will open on 1st of March, in caring for his patients.

Dr. F. M. Blankenship, of Hillsdale, has sold his home and practice to Dr. Jones, of Kentucky, and left January 31 for New York, where he will do special work in eye, ear, nose and throat.

The degree of Doctor of Laws was conferred upon Dr. J. A. Witherspoon, of Nashville, by the University of Georgia on January 29, at the dedication of their new Medical Department. Dr. Witherspoon was one of the speakers of the occasion.

Dr. Ramon Guiteras, of New York, and Dr. G. W. Crile, of Cleveland, have consented to address the Tennessee State Medical Association at their next annual meeting in Nashville. The former will give an illustrated lecture on the kidney. Other speakers of note will be invited, and we hope to have the most interesting meeting in our history. Make your plans now to attend.

The merger of the Memphis Hospital Medical College, with the Medical Department of the University of Tennessee, has been ratified by the trustees of the two institutions. The plants of the institutions are located near each other, a small park intervening, and it is the intention to make use of all the buildings and the present equipment of both. For the present, the faculties of the two colleges will remain the same, and each will continue to admit students of the other to its clinics.

Dr. Chas. B. Woodard, of Springfield, has invented a fire door, which he has been demonstrating in New York City, where he met with much encouragement from the authorities there, owners of public houses, manufacturers, etc. A corporation will be formed for the manufacturing and marketing of the door.

We regret to learn that a recent court decision was rendered against Drs. N. C. and Willard Steele, of Chattanooga, for six thousand dollars for the alleged negligent killing of a child in that city, sometime ago, with their automobile.

The interesting announcement is made that a new medical college will be opened in Nashville in the fall, the Medical Department of the University of the South. It appears that this move has been contemplated by the Board of Regents for some time and that Nashville was finally selected over a number of competing cities. It is stated that the new school will occupy the old University of Nashville college building.

This institution was formerly conducted at Sewanee, but has not been in operation for several years. With the proverbial Sewanee spirit behind it and the generous financial support promised, the new school will open under most favorable auspices.

Dr. R. E. Fort will be the dean. No further details have been given out as yet.

We are in receipt of a card from Dr. W. G. Frierson, of Shelbyville, announcing his retirement from the practice of medicine to enter the insurance field. Dr. Frierson also tendered his resignation to President Dulaney as Councilor of the Fifth District. We regret to learn that the doctor has seen fit to leave the profession he has served so capably for the past fifteen years. He has been a tireless worker in his community and has always been ready and willing to lend his assistance to advance the organization whenever called upon. We wish the doctor every success in his new undertaking.

DIABETES—MELLITUS.

I am undertaking an exhaustive research into the pathology, etiology and therapy of diabetes mellitus. I am very anxious to hear from every physician in the United States who has a case under treatment, or who has had any experience in the treatment of this malady. Von Noorden says: "the best treatment for the diabetic is the *food* containing the *greatest* amount of *starch* which the patient can bear without *harm*." If any physician who reads this has similar or contrary experience, and would take the trouble to write me, I would esteem it a special privilege to hear from him, if only a postal card. Kindly address,

WILLIAM E. FITCH, M. D.,
355 W. 145th St., New York City.

The Federation of State Medical Boards will hold its annual meeting at the Congress Hotel, Chicago, on Tuesday, February 25, 1913.

Essayists, eminently qualified, will prepare papers upon the following subjects:

"Is Universal Reciprocity to be Desired?"

"Should Medical Boards Require One or More Years of College Work Preliminary to the Study of Medicine?"

"Should One or More Years in a Hospital be Required for Admission to the Examination for Medical Licensure?"

"Rules and Regulations Governing Examinations for Medical Licensure."

"Qualification of Examiners."

"What Fee Should be Required for the Examination?"

"Benefit of Having a Single Federation of State Medical Boards and Method of State Board Record Keeping."

"Means of Keeping Politics out of State Board Affairs."

These topics are all of practical and vital interest to medical colleges, medical examining boards, the profession at large and the public.

Those contributing the papers on these subjects come with years of experience and no medical board can afford not to be represented. An earnest and cordial invitation to this meeting is extended to all members of State Medical Examining and Licensing Boards, teachers in medical schools, colleges and universities, delegates to the Council on Medical Education of the American Medical Association, to the Association of American Medical Colleges and to all others interested in securing the best results in medical education and legislation.

The officers of the Federation are Arthur B. Brown, M. D., President, New Orleans; George H. Hatson, M. D., Secretary-Treasurer, Columbus (State House), Ohio; James A. Duncan, M. D., Chairman Executive Committee, Toledo.

Dr. R. P. Harbin, formerly of Dallas, Tex., has located in Nashville, on Commerce Street and Eighth Avenue North. The Doctor comes highly recommended by some of the most prominent physicians in Texas, and we trust he may meet with much success.

County Societies will please observe that the State meeting to be held in Nashville, April 8, 9 and 10, promises to be the best in the history of the Association. The Committee on Program are arranging a treat in having a special address upon each of the practical branches by some one of international reputation.

Dr. Ramon Guiteras, of New York, will give an illustrated lecture on the kidney.

Dr. George Dock, of St. Louis; Dr. Isaac A. Abt, of Chicago; Dr. Geo. W. Crile, of Cleveland; Dr. Casey A. Wood, of Chicago, have all been invited and we hope to have them with us for the meeting. Urge your members to attend the State meeting and make your plans early.

MARRIAGE.

Dr. Louis Levy, of Memphis, was married to Miss Caryne Levy on February 4, at the bride's home in Memphis. Dr. and Mrs. Levy will spend their honeymoon in Florida.

DEATHS.

Dr. R. F. Parker died at his home in Lafayette, Tenn., in January, 1913.

Mr. J. W. Altman, aged 86 years, died at the home of his son, Dr. J. T. Altman, of Nashville, January 27, from a stroke of apoplexy. Mr. Altman is survived by four children.

Dr. W. Riley Wood, of Lexington, died January 17, at his home after a brief illness of pneumonia. He is survived by his wife and four children.

Dr. J. T. Faucet, of Trenton, died February 2, after an illness of several weeks. Dr. Faucett was President of Gibson County Board of Health up to the time of his death, and a member of both the State and County Medical Associations. He is survived by his wife and five children.

A NEW WORK ON THE HISTORY OF MEDICINE.

W. B. Saunders Company, publishers, of Philadelphia and London, have in active preparation a work on the History of Medicine, by Dr. Fielding H. Garrison, Principal Assistant Libra-

rian, Surgeon-General's Office, and Editor of the *Index Medicus*. Dr. Garrison's twenty years' experience in medical bibliography, and the unusual advantages derived from his close touch with the rich stores of the Surgeon-General's Office, fit him most admirably for such a work as this.

His book will present the history of medicine from the earliest ancient and primitive times; on through Egyptian Medicine, Sumerian and Oriental Medicine, Greek Medicine, the Byzantine Period; the Mohammedan and Jewish Periods, the Mediaeval Period, the Period of the Renaissance, the Revival of Learning and the Reformation; the Seventeenth Century (the Age of Individual Scientific Endeavor), the Eighteenth Century (the Age of Theories and Systems), the Nineteenth Century (the Beginning of Organized Advancement of Science), the Twentieth Century (the Beginning of Organized Preventive Medicine). There will also be Appendices covering Medical Chronology, Histories of Important Diseases, Histories of Drugs and Therapeutic Procedures, Histories of Important Surgical Operations and Bibliographic Notes for Collateral Reading.

Dr. Garrison's work will undoubtedly be a valuable book to every medical man. In this one volume he will get a complete history of medicine from its earliest times, presented in a concise form.

The illustrations are intended to stimulate the reader's interest in the picturesque aspects of medicine and in the personalities of its great leaders. The biographies will be confined to the most important facts and to interesting personal traits. The original bibliographic references to the important discoveries, operations and experiments will be given. Each period is to be followed by a brief survey of its social and cultural phases. Altogether, it promises to be a most important addition to medical literature. We await its publication with much interest.

MORPHIN VERSUS THE COMBINED OPIUM ALKALOIDS.

The results obtained with the isolated "active principles" of drugs have in certain cases been observed to be not entirely identical with those obtained by the administration of galenic products or the crude drug itself. This is notably

true of opium, the therapeutic efficacy of which is somewhat different from that of its chief alkaloidal ingredient morphin. W. Straub has undertaken to throw some light on these differences. While it is probable that they would be due to the minor alkaloids of opium, to quote Straub: "It is improbable, *a priori*, that it is necessary, in order to improve the action of morphin, to drag in the whole of the two dozen alkaloids of opium; it is much more probable that only the most active or the most abundant of the alkaloids need to be considered." The Researches of Straub have made it probable that the practical differences in the action of opium and morphin are mainly due to the narcotin. H. Caesar has made comparable trials with the other alkaloids associated with morphin in opium and found that these do not produce the reinforcement, under discussion. They do have complex modifying effects, however, which are further complicated by any changes in their relative proportions. Since these proportions vary enormously in different samples of opium, and still more in its galenic preparations, Straub and Caesar suggest the employment of a simple mixture of equal parts of morphin and narcotin in place of the opium (*Jour. A. M. A.*, Sept. 14, 1912, p. 882).

COUNTY SOCIETY PROCEEDINGS.

GREENE COUNTY.

The Greene County Medical Society held its regular meeting Monday, January 6, 1913, in the parlor of the Hotel Brumley.

President H. M. Taylor presided.

The following members were in attendance: Drs. C. P. Fox, J. D. Campbell, T. H. Woolsey, J. B. Bell, J. S. Holt, S. T. Brumley, G. M. Price, I. B. Brown, H. M. Taylor, T. C. Britton, J. S. J. Wilhoit, S. W. Woodyard, J. F. Lane, T. D. Cloyd, and M. A. Blanton, with the following visitors: Drs. J. C. Moore, R. D. Kille, and L. W. Newland.

Dr. S. T. Brumley read an excellent paper on "Croupous Pneumonia," which was discussed by Drs. Price, T. D. Cloyd, Lane, Blanton, Brown, Campbell, Fox, and closed by essayist.

Dr. T. D. Cloyd read a very interesting paper on "Serum Treatment of Tuberculosis," which was discussed by Drs. Price and Fox. Dr. Cloyd closed the discussion.

Dr. T. H. Woolsey asked for information in regard to his child's illness and help was offered by several of the members present.

Dr. Fox's talk on the importance of every physician being a member of the American Medical Association and the true worth of the JOURNAL of the American Medical Association was very convincing. Also his talk on "Medical Defense" was to the point and well taken.

Drs. R. D. Kille, J. C. Moore, L. W. Newland, and J. F. Lane were elected, by unanimous vote, to membership in the society.

The officers for the ensuing years were elected as follows: President, Dr. M. A. Blanton; Vice-president, Dr. J. D. Campbell; Secretary-Treasurer, Dr. J. F. Lane. Committee on Arrangement of Program, Drs. C. P. Fox, S. W. Woodyard, and J. F. Lane.

There being no further business, the society adjourned to meet again on the first Monday in April in the office of Dr. C. P. Fox, of Greeneville.

After adjournment, the society repaired to the dining room of the Hotel Brumley, where a very delicious repast was served, every one present seemed to lose sight of the fact for the time being, that suffering humanity was urging them to shake off this cloak of pleasure and ease, and hurry to their assistance, but gave themselves entirely over to the pleasantries around the festive board and the delicacies spread before them. After dinner the delightful toastmaster, Dr. G. M. Price, presided, which made the day complete.

J. F. LANE, M. D., *Secretary*.

BEDFORD COUNTY.

The Bedford County Medical Society met in regular session on January 16, and was called to order at 1:30 p. m. by President T. H. Wood, of Bell Buckle.

The following members were in attendance: Drs. Taylor, Patton, Ray, Horton, Pyatt, Haggard, G. W. and S. S. Moody, Coble, Wood, Orr, Shelton, Frierson, and Reagor.

Minutes of the previous meeting were read and approved.

Under case reports, the following were presented: Dr. Frierson, a case of painful toe, upon which he asked for a diagnosis and treatment. The diagnosis was guessed at all the way from

gout and rheumatism to appendicitis, gall-stone and iritis with a suggestive treatment as varied.

Dr. Taylor reported further on a case which he had previously reported, of hyperthyroidism complicating pregnancy in which now, after delivery, all the symptoms of the thyroid poison have disappeared.

Dr. Haggard reported a case of sudden blindness, also one of gastro-intestinal disease in a baby.

Dr. Wood reported a case of tetanus which had made recovery under treatment of serum, opium and carbolic acid.

Dr. G. W. Moody finished the program for the evening with an interesting paper on "The Treatment of Pneumonia and Its Complications," which was fully discussed by all present.

Dr. W. G. Frierson then announced that he is retiring from the practice of medicine to another field. This came as a great surprise to his medical brethren here.

Dr. Morton's paper on "Grip" was passed over for the March meeting to take the place of the one which Dr. Frierson was expected to read.

After this the society adjourned to meet again February 20.

It will be noticed that our society had in attendance at this meeting fourteen members, and this out of a membership of twenty-one or nineteen of those fully paid up. Out of thirty-one eligible physicians in this county, we have twenty-one as members of our society. The average attendance, during 1912, at our meetings was ten and a fraction. The number of subjects discussed, including case reports, was twenty-three. We had only nine meetings, missing three, one due to the Middle Tennessee Medical Society's meeting which convened here on the date of our regular meeting causing its postponement, and the other two due to the neglect of the Secretary in announcing the meetings, which always comes up when the Secretary does his duty.

Now, if you will allow the Bedford County Secretary to do a little bragging, he will say that, we have always had, when we do meet, a good, lively and interesting meeting, and a good discussion of the medical subjects in a creditable way. The profession here is being strengthened by our study of the subjects in

hand and the improvement from month to month, is apparent. If, at the recent meeting above reported, we had had no paper and only the case reports with their discussions, it would have been well worth the afternoon which we spent together and I feel prouder of Bedford County Society and can't resist the temptation to brag on them. So if you boys, in the larger county societies, don't believe we will fuss with you and make it hot for you, just come over the line. Now, is that bragging enough; and might some one call my hand and make me take down the dare? But I will be modest and re-iterate, that nine meetings out of twelve, with an average attendance of ten and one-ninth, out of a membership of nineteen, subjects being discussed numbering twenty-three for the year 1912, is what I know to be very well for a little country medical society and while I brag a little, I feel that we will do better this year as there is plenty of room for improvement and we have the boys to do it with.

F. B. REAGOR, *Secretary*.

CARROLL COUNTY.

At the conclusion of the business meeting, Drs. H. H. Shoulders and Olin West, of Nashville, addressed the Carroll County Society and the general public, on "Preventive Medicine." These talks were interesting and instructive. We are always glad to have such able men with us. The Society voted to notify our representatives in the legislature to aid in every way possible the passage of the laws on medical legislation being presented by the State Board of Health at the present session, and to oppose the repeal of the 1911 Pharmacy Act. At the conclusion the county profession and visitors were entertained at the Hotel Olive by the profession of Huntingdon. As a whole the meeting was a success and well attended.

B. C. DODDS, *Secretary*.

The following officers were elected for the ensuing year:

President, Dr. G. C. Bryant, of McLemoresville.

Vice-president, Dr. J. B. Cox, of Huntingdon.

Second Vice-president, Dr. E. M. Alexander, McKenzie.

Treasurer, Dr. L. L. Duncan, Hollow Rock.

Secretary, Dr. B. C. Dodds, Huntingdon.

Delegate, Dr. H. T. Collier, of McKenzie.

Alternate, Dr. H. L. Alexander, of McKenzie.
Censors, Drs. W. M. Wright, J. N. Gray and W. G. Compton.

RUTHERFORD COUNTY.

The Rutherford County Medical Society met in the office of Dr. E. H. Jones, of Murfreesboro, February 5th, at 2 p. m.

Dr. Matt B. Murfree read an essay on the subject of "Meningitis," which was thoroughly discussed by all members present.

Drs. J. T. Harris, J. A. Scott and J. W. Cartwright were elected to membership in the Society at this meeting.

Physicians in attendance: Drs. E. H. Jones, R. W. Read, S. C. Grigg, Rufus Pitts, B. N. White, V. S. Campbell, M. B. Murfree and E. O. Jenkins.

RUFUS PITTS, *Secretary*.

JACKSON COUNTY.

The Jackson County Medical Society met in the Courthouse, Monday, January 20, 1913, with the President, Dr. J. B. Hix, in the chair. Minutes of the December, 1912, meeting were read and approved. Dr. S. B. Fowler then reported a case of typhoid fever treated with ipecac. Dr. Lansdon, of Livingston, a visiting hookworm field man, reported quite a number of cases of gonorrhea (he says it is plentiful about Livingston), treated very successfully with urotropine injections. The Doctor thinks any case can be cured in five days with this treatment. President Hix reported some cases of Amœbic Dysentery treated with large injections of Bis. Sub. Nit.

Dr. Lansdon then reported a number of cases of convulsions cured by treating patients for hookworm and having them expelled.

Dr. C. E. Reeves reported a case of gall-stone colic and kidney colic in a patient having both attacks at the same time.

Dr. S. B. Fowler exhibited a small pedunculated tumor which he had removed from the cervix of a woman that had bled her almost to death. Since removal of the tumor patient is doing nicely, and has suffered no more hemorrhage.

Dr. E. W. Mabry then read a splendid paper on the microscope and its uses.

Dr. L. R. Anderson opened the discussion on Dr. Mabry's paper, after which discussion became general, and was closed by the essayist.

We will meet again February 17th. Dr. S. B. Fowler will present a paper on "La Grippe" at this meeting.

C. E. REEVES, *Secretary*.

FOOD AND DRUGS ACT CONVICTIONS.

The owners or sellers of the following "patent medicines" have been prosecuted by the Federal authorities in the enforcement of the Food and Drugs Act:

Wood's Soothing Syrup, Wm. J. Wood, Trenton, N. J.—It has been claimed to be "a sure cure for croup," "a preventative against taking cold," etc. Analysis indicated it to be a watery-alcoholic solution of opium, aromatic bodies, sugar, inorganic salts and undetermined matter.

Ralston's Select Bran and Acme Diabetic Flour, Acme Mills Company of Portland, Oregon.—Ralston's Select Bran was claimed to be a brain and nerve food, to give rightness to the eye, cure torpidity of the liver, etc. Examination proved it to be nothing more than ordinary bran. Acme Diabetic Flour was sold under the claim that it was "milled by special process to preserve gluten properties of wheat." While this statement gave the idea that gluten was the chief constituent of this flour, the analysis showed that the product did not contain any more gluten than is found in ordinary wheat flour. While recommended to diabetics it contained an amount of starch equal to that found in ordinary flour.

Dr. Caldwell's Rheumatism Cure, "John" W. Horter, New York.—This nostrum was sold under the usual extravagant claims. Examination indicated it to contain alcohol, salicylic acid, ammonia and traces of bromides, a chlorid, an alkaloid (not identified), sodium and phosphorus were found.

Dr. Caldwell's Anti-Pain Tablets, Dr. Caldwell Medical Company, Poughkeepsie, N. Y.—These were found to contain acetanilid 51.4 per cent, caffeine 12.3 per cent, corn-starch 23.2 per cent, camphor, present. The product was found misbranded because the label said nothing in regard to the acetanilid content.

Hoff's Consumption Cure, Bendiner & Schlesinger, New York.—This was found to contain morphin, cinnamic acid, potassium and arsenic. It was declared misbranded because its morphin content had not been declared and because of the untrue therapeutic claims made. With this cure came four other nostrums: Superlatone, Adjunct Cough Mixture, Concentrated Appolozzer's Mixture and Kodal Tablets, all of which the victim was expected to use along with the "cure" (*Jour. A. M. A.*, Sept. 14, 1912, p. 893).

THE EVIL OF THE SPECIAL PACKAGE.

W. C. Wescott (*The Jour. A. M. A.*, Feb. 1, 1913, p. 387) deals with a timely subject in his discussion of physicians who prescribe proprietaries, and censures them for furthering the tendency of the times toward self-medication.

When a patient learns that the prescription was not written for him, but is "ready-made," his faith in the physician is lessened, although the medicine might be the best for his case. If he is benefited by it, he concludes that the proprietary will be good for illness in which any similar symptoms appear. He then recommends it to his friends as a "good thing" for any like ailment.

The patient has a right to know what medicine he is taking, but it is best for physicians to avoid, whenever possible, the appearance of prescribing "ready-made" medicines. He should at least give his prescription the semblance of individuality.

Nearly every proprietary is put up in a distinctive package, and it is the druggist's interest to dispense it in this package. It may be Fellows' Syrup with the name blown in the glass, or atophan with its fancy "star-bespangled" box; and although the physician may write his own directions and the druggist remove the printed label and affix his own, the chances are that the patient will know it is a proprietary.

There are two reasons why the druggist sends the medicine out in the original package. Many physicians have taken the advice of the manufacturer and told the patient what to expect, so that there may be no substitution. Therefore, the druggist cannot transfer the medicine to a prescription box or bottle. The main reason is the fact that the druggist must have a warrant for charging such a high price, as 99 per cent of all proprietaries are more expensive than the ordinary prescriptions of physicians.

It would be a decided advantage if they make it an invariable rule to ascertain the style of any proprietary which they may consider using. They will then be able to take such measures as may be necessary to prevent the general and indiscriminate use of proprietaries.

BOOKS RECEIVED.

MEDICAL MEN AND THE LAW. A Modern Treatise on the Legal Rights, Duties and Liabilities of Physicians and Surgeons. By Hugh Emmett Culbertson, Esq., member of the Ohio and New York Bars; Contributing Editor to many Legal Publications. Octavo, 325 pages. Cloth, \$3 net. Lea & Febiger, Publishers, Philadelphia and New York, 1913.

THE PRACTICAL MEDICINE SERIES. Comprising ten volumes on the year's progress in medicine and surgery. Nervous and Mental Diseases, Vol. X. Under the General Editorial charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School, and Charles L. Mix, A.M., M.D., Professor of Physical Diagnosis in the Northwestern University Medical School. Edited by Hugh T. Patrick, M.D., Professor of Neurology in the Chicago Polyclinic, Professor of Nervous Diseases in the Northwestern University Medical School; Ex-President Chicago Neurological Society, and Peter Bassoe, M.D., Assistant Professor of Nervous and Mental Diseases, Rush Medical College. Series 1912. Price, \$1.25. The Year Book Publishers, 180 Dearborn Ave., Chicago.

THE PRACTICAL MEDICINE SERIES. Comprising ten volumes on the year's progress in medicine and surgery. Skin and Venereal Diseases, Miscellaneous Topics. Under the general editorial charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School; and Charles L. Mix, A.M., M.D., Professor of Physical Diagnosis in the Northwestern University Medical School. Vol. IX. Edited by W. L. Baum, M.D., and Harold N. Moyer, M.D. Series 1912. The Year Book Publishers, 180 Dearborn Street, Chicago.

SURGERY AND DISEASES OF THE MOUTH AND JAWS. A practical treatise on the Surgery and Diseases of the Mouth and Allied Structures. By Vilray Papin Blair, A.M., M.D., Professor of Oral Surgery in the Washington University Dental School and Associate in Surgery in the Washington University Medical School. With 384 illustrations. Price, \$5. C. V. Mosby Company, St. Louis, Mo.

A TREATISE ON PELLAGRA for the general practitioner. By Edward Jenner Wood, S.B., M.D., Chairman of the Pellagra Commission of the American Society of Tropical Medicine; Fellow of the London Society of Tropical Medicine and Hygiene; formerly President of the Medical Society of North Carolina, etc. With 38 illustrations in text. D. Appleton & Co., New York.

PSYCHANALYSIS: ITS THEORIES AND PRACTICAL APPLICATION. By A. A. Brill, Ph.B., M.D., Chief of the Neurological Department of the Bronx Hospital and Dispensary; Clinical Assistant in Psychiatry and Neurology at Columbia University Medical School. Octavo of 337 pages. Philadelphia and London: W. B. Saunders Company, 1912. Cloth, \$3 net.

PRINCIPLES AND PRACTICE OF OBSTETRICS. By Joseph B. De Lee, A.M., M.D., Professor of Obstetrics at the Northwestern University Medical School. Large octavo of 1060 pages, with 913 illustrations, 150 of them in colors. Philadelphia and London: W. B. Saunders Company, 1913. Cloth, \$8 net; half morocco, \$9.50.

BOOKS RECEIVED AND REVIEWED

GOLDEN RULES OF SURGERY. Vol. I. of the Golden Rule Series. Especially intended for students, general practitioners, and beginners in surgery. By Augustus Charles Bernays, A.M., M.D., F.R.C.S., Eng., Life Member of the German Society for Surgeons of Berlin, Chief Surgeon Lutheran Hospital, and for twenty years Professor of Anatomy and Surgery, St. Louis. Second Edition, revised and rewritten by William Thomas Coughlin, M.D., Assistant Professor of Surgery, Chief of Clinic, St. Louis University Medical School, St. Louis. 280 pages; octavo. C. V. Mosby Co., St. Louis. Price, \$2.25.

The entire absorption of a large first edition of the Golden Rules of Surgery made necessary the issue of the present one. Its enlargement and elaboration by the junior author has made it possible to cover the entire field of surgery in a thorough and systematic manner, at the same time preserving the character and charming style that made the first edition of this book popular.

In reviewing this volume, one is struck with the force of each statement, showing that the authors have weighed well the idea to be conveyed and have striven to present the thought to the reader in a convincing manner.

One is surprised to find cardinal principles enunciated in a sentence, which in ordinary text-books and systems can only be found after careful dissecting page upon page. How easy it is to forget facts is impressed upon one after reading this volume over and over again. It can be truthfully asserted that to read this little volume over and over will so acquaint one with the fundamental truths of surgery that a viewpoint of this science and art will be obtained that will rebound greatly to the credit of the reader.

The publishers announce that other volumes in this series will follow rapidly—on Gynecology, Diagnosis and Treatment, Pediatrics, and Obstetrics.

HANDBOOK OF DISEASES OF THE RECTUM. By Louis J. Hirschman, M.D., President of the American Proctologic Society, Lecturer on Rectal Surgery and Clinical Professor of Proctology, Detroit College of Medicine. Revised and rewritten second edition. 338 pages. Royal octavo; 172 illustrations, including four colored plates. Price, \$4.

The first edition of Dr. Hirschman's book met with a hearty reception at the hands of the medical profession. The present edition has been entirely rewritten, forty new illustrations, including two colored plates, have been added, and the entire book has been reset. This is pre-eminently a book for the general practitioner. It is written in the hope that this class of the medical profession will arouse themselves to the possibilities of this line of work and not allow the charlatan and the advertising quack to take from them work which can be done by the legitimate practitioners of medicine. To that end special attention has been paid to office work in rectal diseases and the part that local anesthesia plays in this class of work.

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ISSUED MONTHLY, under Direction of the Trustees

PERRY BROMBERG, M.D., Editor and Sec'y
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VOLUME VI.

NASHVILLE, TENNESSEE, MARCH, 1913.

NUMBER II.

DIAGNOSIS OF PROSTATIC HYPERTROPHY.*

BY PERRY BROMBERG, M. D.,

Professor of Genito-Urinary Surgery, Vanderbilt University, Nashville.

In selecting this disease, I was guided by the desire to offer something of a practical nature, something that might, in a small way, be of benefit to the general practitioner. I have, for that reason, avoided the discussion of the many rather technical subjects, which are at the present time attracting the attention of the Genito-urinary specialists, and have selected the rather commonplace and time-worn one of prostatic hypertrophy. My reasons for doing so are: 1, that the great majority of physicians are prone to wait for the development of the third stage which practically drives them to its recognition before they give their patients the benefit of a thorough examination; 2, the frequency with which it is mistaken for other vesical diseases, the true pathology being unsuspected. I shall not attempt to bore you with an appalling array of statistical information, but shall make an effort to present the symptoms as they are most likely to be found in your patients and in mine.

The diagnosis of prostatic enlargement is not usually difficult if we keep in mind the sequence of symptoms, but we should not forget that enlargement may exist and produce no symptoms. We are told that we may expect only one in seven to suffer and, even amongst those who do, the disease may be insidious so as to alarm

the individual only when sudden acute retention occurs or dribbling puts in its appearance.

In a rather small per cent, symptoms will occur at the beginning and continue pari-pasu with the enlargement. We should, however, remember that this occurs only in a very limited number.

The sequence of symptoms may be said to begin with some change in the urinary function and usually the change first observed is frequency of micturition.

In health, a normal individual should urinate five or six times daily, the quantity at each urination should be eight or ten ounces and the total quantity approximately fifty ounces. When a patient presents himself with the symptom of frequency, we should determine to what degree is micturition increased and upon what does it depend. We should with great care, determine, not only the extent and nature of frequency but is it accompanied by increase or diminution in quantity, also is it greatest by night or by day?

Recently a man was referred to me, by one of the best physicians in our city, with a diagnosis of prostatic hypertrophy, based upon the symptom of frequency, plus a moderately enlarged prostate with a few ounces of residual urine. On examination I found this man was urinating fifty times in twenty-four hours and passing as much as four ounces at each time, his total output of urine was two hundred ounces and the case proved to be one of diabetes insipidus.

As a good working rule we may safely say that where increase in frequency is accompanied by an increase in quantity, the trouble is dependent upon some constitutional cause; such as diabetes insipidus, diabetes mellitus, chronic interstitial nephritis; or urina spastica.

*Read before the Nashville Academy of Medicine, February 18, 1913.

Where there is marked increase in frequency without relative increase in quantity; it is due to some inflammatory condition about the bladder or its neck. Where the increase in frequency occurs by day only; it is most likely due to a neurosis or vesical calculus.

Where it occurs by day and by night, without relative increase in quantity, frequency much more noticeable by night, it suggests the absence of the foregoing conditions and the presence of hypertrophy of the prostate.

Since then increased frequency of urination is, almost invariably, amongst the early symptoms and, while the aged are almost universally of the opinion that to arise once or oftener during the night is merely an evidence of advancing years, still it sooner or later attracts their attention and causes them to consult us for an explanation.

In prostatic hypertrophy what are the factors that produce it? Three factors, singly or combined, may be active in causing it. 1, any engorgement about the neck of the bladder or in the prostatic plexus will produce congestion or inflammation of a sufficient degree to be responsible for it. It may be observed that the symptom will be very materially augmented by severe constipation, sexual excess, irregularities in eating and drinking, exposure to wet and cold, etc. 2, if residual urine be present, the bladder capacity will be proportionately diminished and as a consequence will reach its normal degree of distention at shorter intervals. 3, the quality of the urine may be irritating and require more frequent emptying. It is needless, therefore, to remind you that these several factors must be given due consideration and their presence or absence determined.

Most observers claim that frequency is greater by night than day. Casper goes so far as to speak of nocturnal polyuria and claims that the amount of urine passed by night is greater than that which is passed by day. Deaver doubts this statement and claims that **greater stress is laid upon nocturnal frequency by the patient and, consequently, by the surgeon, merely because it arrests the attention sooner, than increased frequency by day.** He says: "A man may wash his hands eight or ten times a day, and think nothing of it; but if he were to awaken

during the night with an irresistible desire to get up and wash his hands, he would be very sure to remember the fact in the morning and to seek an explanation." Personally, I do not doubt that the nocturnal element has been much exaggerated and I believe with Deaver, that the frequency is both by day and night, possibly slightly more by night.

Certainly, it will be understood that upon the advent of cystitis which may be expected to occur sooner or later in all cases, the desire to urinate becomes more frequent and vesical tenesmus often becomes incessant.

FORCE AND SIZE OF STREAM.

That there will be diminution in the force with which the stream is expelled from the bladder is, of course, understood, as well as the difficulty experienced by the patient in starting the stream; this symptom, added to the first, is often the cause for consultation. Both, loss of force and delay in starting the stream, are due to two factors. 1st, the obstruction occasioned by the enlarged prostate; 2nd, the decreased expulsive power of the bladder. Of course if stricture of the urethra be present, an added factor must be considered, which will cause a further diminution in the projectile force and the size of the stream.

INVOLUNTARY DRIBBLING.

When the contractile power of the bladder becomes impaired, it fails, at the termination of urination, to sufficiently distend the urethra with fluid to excite its contraction and the result will be an involuntary dribbling. The normal continuity between the urethra and bladder being disturbed by the enlarging prostate will also aid in explanation of this symptom. In those cases with median enlargement of Holm's lobe where a ball valve action is obtained by the vesical pressure an intermittent urination may occur, such as would be found in cases of vesical calculus and has been the cause of error in diagnosis in many instances. We should remember in this connection however, that calculus complicates hypertrophy of the prostate in cases with residual urine in about 25 per cent, and that both may be present in the same case.

RETENTION OF URINE.

It is not uncommon that the general practitioner will first be called to see the patient with acute retention; the symptoms which have previously been mentioned have either been absent or of such slight degree to have passed unnoticed. He will usually be able to get a history in these cases of some of the causes above-mentioned which are recognized as being capable of producing congestion at the vesical neck; as excess in sexual indulgence, exposure to wet and cold, etc. The recognition of this distressing symptom is of course easy. Patients who have been voiding urine without difficulty are suddenly unable to pass a single drop. The auxiliary muscles of the abdomen and chest are brought into play and despite every effort on the part of the patient, not a single drop will pass. As the bladder becomes more and more distended, frightful vesical spasm occurs and the sufferer walks the floor constantly trying by every possible means to force out a few drops of urine. If assistance is not obtained, and the distention of the bladder persists for any considerable time, the bladder is violently stretched and severe and often permanent injury is inflicted. The earlier this acute retention occurs the more serious is the disturbance it produces, for late in the disease when the bladder has been gradually accommodating itself to a steadily increasing quantity of residual urine, acute retention is less likely to inflict permanent injury to its musculature or nerve supply, which in the early ages, have not been previously prepared, so to speak. It is this variety of sudden acute retention that is most frequently observed in the younger patients and may, as it frequently does be relieved by simple catheterization, to return a month, a year or several years hence. It should be an augury to the observant physician of what is to follow when the full train of symptoms put in their appearance. Some authors, in discussing the question of acute retention, seem inclined to attribute it to growth of the prostate; to my mind, the cessation of symptoms upon a single or at most a few catheterizations, would imply congestion rather than overgrowth as a cause.

While it is true that there are patients who, upon the slightest exposure, will develop acute retention, still others may go for years without

its recurrence. I have on hand at present, a man 76 years of age, whom, ten years ago, I relieved of acute symptoms referable to his prostate. On the other hand, it frequently happens that acute retention ushers in incomplete retention or the beginning of the period at which residual urine will be found in the bladder or better designated chronic retention.

CHRONIC RETENTION.

This beginning for chronic retention is rather the unusual, its development most usually being slow and insidious until overflow from retention occurs which may be the first symptoms to attract the patient's attention. Overflow from retention should not be confounded with dribbling, for in this instance, it means that the bladder has reached its full degree of distensibility and any urine emptied into it from the ureter, must displace a given quantity via the urethra, which is held open by failure of the vesical sphincter to close over the enlarged prostate. It is this variety of case which we see in the so-called third stage, when a diagnosis can almost be made by the urinous odor about their clothing. As above stated, the development of this degree of distention has been gradual and progressive, having carried a variable amount of residual urine, gradually becoming more and more pronounced for years, prior to the time when he will ultimately reach his maximum of distention, which, in some cases may be enormous. Just here, let me add a word of warning relative to catheterization and removal of the entire quantity of urine from these over-distended bladders. Recent reports confirm our former fears relative to its danger and I would advise against too sudden a withdrawal.

When the stage of overflow from retention, or as Guyon designates it, the incontinence of overflow, has been reached, the posterior urethra is dilated, vesical sphincter patulous, then the period of freedom from infection terminates. This condition should not be confounded with the incontinence from atony or paralysis of the bladder and can be differentiated by simple catheterization for in these conditions, the true incontinence empties the bladder and catheterization will show no urine. Hematuria, though not a very prominent symptom is met with sufficiently often to demand attention. It is most

likely to occur after catheterization for acute retention, when very slight injury to the delicate, spongy, vascular tissue of the prostate may be accompanied by profuse hemorrhage.'

It may occur irrespective of cystitis, calculus, catheterization or other known cause than exposure to cold, sexual indulgence or any other of the causes already mentioned, as productive of vesical congestion when it is then due to spontaneous rupture producing that variety of hemorrhage which Casper speaks of as hemorrhage *ex vacuo*.

Any discussion of the symptomatology of prostatic hypertrophy would be incomplete unless due consideration be given to its complications, both local and constitutional. The most frequent local complication, is cystitis, which may occur during the first stage, before retention occurs or during the second stage when there is moderate retention with decomposing urine. One of the products of decomposition of urea, being ammonia, acts as an irritant and prepares the soil for the bacteria, which usually reach the bladder via a catheter or other instrument. The urine becomes alkaline and of itself rather favors the development of bacteria. It is agreed that it is possible with strict aseptic precautions, to catheterize without infecting the bladder, but where this must be continued as in chronic retention, infection becomes inevitable and cystitis sooner or later appears. The symptoms of cystitis arising in a patient with prostatic hypertrophy are the same as are to be found in other cases of cystitis and do not require special consideration, the classical proof for its existence being pus in the urine. Of the other local complications which may occur in prostatic hypertrophy, I will merely mention the possibility of urethritis from frequent catheterization; inflammations of the hypertrophied prostate leading to abscess which is always of grave prognosis; of occasional unilateral or bilateral epididymitis and of the tendency towards the formation of vesical calculi from the crystallization of the phosphates and carbonates deposited. Of the so-called constitutional complications, I would direct you to that condition which Guyon has appropriately termed *dyspepsia urinaria* which occurs in all varieties accompanied by chronic retention.

The patients lose their appetite, show a par-

ticular dislike to meats or heavy foods and prefer liquids to solids, this, Casper thinks, is due to a reduction in the power of the kidneys to eliminate waste material from the blood, their function being impaired by the engorgement to which they are subjected. As a result of renal insufficiency urinary intoxication is produced which in turn gives rise to the dyspeptic symptoms which are termed the aseptic cachexia of prostatics.

It is in this variety of case, as well as in the cases of true urosepsis, that we should bear in mind that uremia and death may rapidly supervene upon sudden retention. Pyelitis, nephritis, pyelonephritis or pyonephrosis may result from ascending infections. Their symptoms are too well known to require further mention. It should, however, be remembered, that chronic urinary intoxication can take place without involvement of the kidneys, manifesting itself by loss of strength, anorexia, thirst, coated dry and furred tongue, the patients becoming miserable and cachectic, developing a low grade of fever and if continued, the patients die. It is a typical urosepsis and results entirely from the diseased prostate and bladder, which Casper regards as far more fatal than acute sepsis with chill and high fever.

Closely following upon the heels of renal involvement, certain cardiac symptoms may appear. Slight dropsy about the ankles, shortness of breath on exertion and varying degrees of palpitation.

The sexual power is usually lost if the hypertrophy be much advanced, and emissions become extremely painful. Constipation may result from encroachment upon the rectum and the straining occasioned by the constant effort at urination may produce hemorrhoids or prolapsus ani.

From what has been said, an appreciation of the stages of prostatic hypertrophy may be roughly obtained by placing in the first those patients whose chief symptom is frequency; in the second, those who suffer from occasional complete retention, but whose general health remains good and whose cystitis is relatively insignificant; in the third; those whose retention has nearly reached the maximum, who require constant or frequent catheterization, who show evidence of cachexia or urosepsis. A hard and

fast line between these several stages can not be drawn, one blends into another without our knowledge and frequently the patients themselves can not give us a history sufficiently accurate to enable us to follow the symptomatic development of the several stages; but from the description which has been given the diagnosis with the accompanying complications should not be difficult; though the physician should under all circumstances give the patient a thorough physical examination, which should include inspection, palpation, catheterization and where practicable cystoscopy.

Inspection, particularly of the lower abdomen should never be neglected, for in this way we will detect the presence of a hypogastric tumor giving the clear characteristics of a distended bladder and avoid the common error of inserting a catheter and withdrawing too suddenly the fluid from an over-distended viscus, the dangers of which have already been mentioned. By inspection we should observe the patient as he makes an effort to urinate and detect the facility or difficulty with which he starts the stream; the force with which it is expelled; its size; whether or not sudden interruptions occur and whether dribbling follows the completion of the act. By training ourselves to carefully observe these seemingly trivial details, much may be learned which will be of subsequent value to us in the future care and management of these cases. The quantity of urine just passed is to be observed and set aside for future examination. Its color, odor, and the presence or absence of sediment as roughly gauged by the eye will be of immediate use to us in forming an idea of the condition of the bladder and the kidneys. The state of distention permitting, we are next ready to apply catheterization and palpation which should be done together. The object of the catheter being to determine, the degree of retention, the length and deviations of the urethra. If, in passing the catheter, and a metal one should be preferred, it is found that the shaft has to be unduly depressed between the patients legs before any urine flows, it shows that the vesical orifice has been raised and favors the diagnosis of enlarged prostate. If the distance from the meatus to the point where the urine begins to flow exceeds eight inches, it bespeaks elongation of the posterior urethra and favors enlarge-

ment of the prostate. It may be mentioned here that the length of the urethra may be considerably increased and not infrequently measures twelve inches. If the catheter deviates from one to the other side as it passes through the prostatic urethra, it shows inequality in the lateral lobes. If the tip of the catheter meets with an obstruction at a distance equalling seven inches from the meatus it is prostatic and not stricture, as strictures are never present in the prostatic urethra.

Having reached the bladder by cautiously inserting the catheter and carefully observing the several details above mentioned, we now permit the urine to flow and observe the force with which it flows from the catheter, if it comes freely without effort on the part of the patient, it indicates good vesical tone; but if straining and the auxiliary muscles together with pressure by the hand be required, the indications point to well advanced vesical atony. The character and amount of residual urine should be noted and the capacity of the bladder be determined by gently refilling it with warm boric acid solution. Without removing the catheter we should next proceed with our physical examination by introducing our finger into the rectum, this to be of greatest benefit should be done with the patient in the knee chest position, but for obvious reasons this is not always practicable. With the catheter in one hand and the finger slowly inserted into the rectum, we should be able to feel the catheter as the finger passes the sphincter and should be able to follow it into the membranous urethra, but in prostatic enlargement, no further; we now carefully examine the prostate, determine its size, shape and conformity and where possible, the seminal vesicles, the mobility of the rectum should be noted, as infiltration, suggesting periprostatic inflammations or malignancy may be discovered. A careful examination will reveal a wonderful amount of information and a little practice will quickly gain for you the ability to perceive with the finger, almost as quickly and as accurately as with the eye.

Such an examination as this will enable you to say positively in every case whether or not an enlarged prostate is present. In a limited number the symptoms may be due to a median lobe enlargement, if any doubt exists, resort to

cystoscopy may be had. The projections into the bladder of the lateral lobes can be plainly seen as well as the so-called third or median lobe. In addition the state of the bladder may be determined and calculi detected.

It is needless to remind you that in this examination we should not neglect a thorough physical examination and should carefully search for the signs of age whether premature or not—the condition of the arteries and heart action, as well as the general circulation and state of general health should be determined. While, as a rule, the diagnosis of prostatic hypertrophy should not be difficult, there are three considerations with which certain cases may be confounded. They are: vesical tumors, malignant tumors of the prostate and retention of urine without prostatic enlargement.

315 Jackson Bldg.

THE PEDIATRICIAN AS A DIETETIST.*

BY M. H. P. PANHORST, M.D.,

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President and Confreres:

In the law of nature there is no exception. If we violate nature's law, punishment is sure to follow.

The law of *similia similibus curantur*, has exceptions, yet if studied right it becomes profitable to us especially in pediatrics.

Also cause and effect play an important role. If we see an effect, we must hunt the cause, and *vice versa*. Here is where the pediatrician finds the greatest obstacle. The infant cannot aid us by speech; we mentally have to ask questions and answer in the same manner, draw our conclusions and made a diagnosis.

But it is not my intention in this scattering paper, to discuss the treatment of sick babies, but the manner in which we might be able by proper diet, nursing, fresh air and water to keep the little youngsters well and if sick, restore them to health with the least amount of drugs.

While pure fresh air and water are not foods directly, yet the oxygen in pure air plays an

important part in nutrition and assimilation, for it is not so much in the quantity we eat as in the amount we assimilate. Water internally and externally aids in the elimination of toxic substances which otherwise might be retained in the system and produce diseases.

We find according to Wriedewald and Vanslyke, the following per cent food value in milk:

	Protein	Fat	Carbo- hydrates	Caloric Value per lb.
Human.....	2.3%	6.2%	3.8%	319
Cows.....	3.5%	3.7%	4.9%	313
Sheep.....	6.5%	6.9%	4.9%	503
Goat.....	4.3%	4.8%	4.4%	360

We might ask why it is that human milk has such a large per cent of carbohydrate, and answer, that most all young animals especially the herbivorous in a few days after birth begin to consume some of the food the mother eats, and by so doing gets a certain per cent of carbohydrates that the young *human* animal does not partake of.

But on further investigation we find the llama, the ass, and the mare all herbivora, give about as high per cent carbohydrate in their milk as the human, and yet their young partake of food rich in carbohydrates very early in life. So we come to a conclusion that some facts exist in nature we know very little about and can not satisfactorily explain the same.

Rubner, also Atwater claim

that 1 Grm. fat furnish 9.1 caloric food value
while 1 Grm. protein furnish 4.1 caloric food value
and 1 Grm. carbohydrate furnish 4.1 caloric foodvalue

According to Pfandndler and also Schlossman, it requires in all individuals regardless of age, about 13 calories of food value to the square decimeter surface.

Thus we find that infants require a larger amount of calories to the body weight than adults owing to the greater amount of radiation, there being a larger surface exposure in proportion to the weight.

Through observation made by Cohnheim, the infant in the first 90 days of life requires 55 calories to each pound of body weight, while the adult at rest only requires 17 calories to each pound of body weight.

But brethren no matter how carefully we consult or even memorize the divers tables of caloric food values, drawn and prepared by scientific

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men, they all, from a theoretical standpoint, look fine and grand.

Theoretically, it requires such and such number of calories to nourish and sustain certain number of pound of the body weight in any individual to sustain life. So, theoretically, we at once come to a conclusion, that it is the simplest thing in the world, by consulting the comparative tables or charts of caloric values of food, and feed our infants or children accordingly.

I say theoretically it seems clear and reasonable, but alas! try it, put it in actual practice and mostly we feel disappointed especially in infant dietetics, we soon find that each individual baby or child is a law unto itself. We must study and investigate each case in order to successfully treat our little patients and always insist on regularity in hours of nursing and feeding.

Of all infant's foods its own mother's milk (that is, healthy mothers) stands pre-eminently at the head of the list, at least 75 per cent of infants do not require anything else as a food the first 6 or 8 months of life, only the milk drawn from their mother's breast.

I do not believe it advisable to employ a wet nurse for we cannot always tell what hereditary taint or hidden disease might be transmitted or communicated to our children by the wet nurse.

The other 25 per cent or thereabout, need something else to keep them in a growing healthy condition and not altogether in the line of nourishment.

Sometimes the mother's milk is too rich and too abundant. In this condition what must we do? How are we to find what is needed? Of course if we have access to a laboratory to make a chemical or microscopical analysis, it makes it easier to come to a conclusion; but most of us are not so situated and besides many of our little patient's parents are not willing, and some not able to defray that expense.

When we find the breast fed infant's bowels are constantly too loose, say 6 to 12 or more bowel movements during 24 hours, yet they contain but little curd, the child looks well, seems to thrive and is constantly gaining in body weight, we can safely conclude that the per cent of fat in this mother's milk is too high.

How can we correct this? By lengthening the time between nursing, and giving it just

before nursing a little fresh water sometimes adding 2 or 3 times a day 1-20 Gr. Calomel or 1-2 to 1 Gr. Sodium Phenol Sulphonate with a little Sub Nit Bismuth.

But halt! I am running into drug therapy.

Then in other instances, notwithstanding that the child gets an abundance of breast milk, yet it cries as if it were hungry, is constipated, does not increase in body weight as it should. What is wrong here? We have an abundance of milk, such as it is, deficient in fats and proteins, causing primarily constipation and alternating diarrhea.

In this patient we reverse our line of treatment, and supply the deficiency in fat and proteins by feeding 3 times a day 1-2 to 2 teaspoonsful of top cream from cows milk diluted with twice or thrice its volume of boiled water adding a few grains of Bicarbonate and Chloride of Sodium. Some one might ask, why not dilute the cream with barley or oatmeal water? But remember as a general rule the mother's milk in these instances is rich enough in carbohydrates, but deficient in fats and proteins.

We must keep in mind that butter fats have thrice the caloric food value of the proteins or carbohydrates.

If constipation still persists, which it seldom does, give a few grains of Sodium Phosphate and a minim of Fennel Oil. Under this dietetic treatment this class of breast fed infants usually do improve rapidly.

As to other foods, goats milk or asses milk stand at the head of the list, but as we cannot often procure them we have to content ourselves with the next best, and feed modified cows milk namely, from 60 to 75 per cent of fresh cows milk diluted with 40 to 25 per cent barley or oatmeal water adding a few grains Bicarbonate and Chloride of Sodium. Now and then we find an infant where we have to add a few grains of cane or milk sugar but not often.

I want to call attention to the high per cent of carbohydrates in human milk. Therefore we should dilute cows milk with barley or oatmeal water and so to some extent make up the deficient per cent of carbohydrates.

Only by close observation, care and years of experience will we be able to rear the artificial fed babies through their first years of existence.

I say existence for a certain number of bottle fed children only exist during the first year of life.

Another factor to be considered in infant feeding is the capacity of the stomach. Ssnitkin has estimated that a baby's stomach holds about 1-100 of its weight at birth and that the capacity increase amounted to about one gram a day. So according to this author, by taking 1-100 of the initial weight at birth, and by adding one gram for each day, the average amount required for each day is ascertained. But according to other authorities, this capacity is not continued in the same ratio, for Holt and Shaw claim the stomach capacity increases faster in the first month of life than any time thereafter. On an average it is 1 1-4 oz. at birth, 2 oz. at 4 weeks, 4 1-2 oz. at 12 weeks of age. So if capacity increase was as great in 2nd and 3rd months of life at 3 months it should hold 7 1-2 oz. while it only accommodates 4 1-2 oz. So in infant feeding this should not be lost sight of and always take in account the weight of the child.

Another difficulty we sometimes encounter, is in the breed of cows that furnish milk for infant consumption. In my experiences the Holstein cow comes first, the native mountain stock next and last the Jersey. By some means Jersey cows milk is not well borne by most infants.

When the good fresh cows milk cannot be obtained, or is not well borne, my experience is that during the first month most infants do well on peptogenic milk powder. After that age Horlick's Malted Milk is my favorite and is easily prepared for use.

Let me give a dietetic re-capitulation. Human milk, goats milk, cows milk, top cream, egg albumen, which is rich in protein gelatine, barley or oatmeal water, sweet milk whey, butter-milk, fresh or the artificially made from fresh cows milk, and any of the proprietary infants foods that have given us the best results. Sometimes we meet with a baby that thrives well on condensed milk properly diluted.

Let me again warn all against the abominable rubber and glass tube combination nursing bottle. It is utterly impossible to keep them aseptically pure and clean.

In regard to diet for older children it is not so much in what they eat as in the quantity

they consume of any one article of food at any one and the same time.

I can't refrain from calling to mind a few instances observed by me. When a boy I accompanied my father on a call just outside of the city to see a child some 6 months old, anemic and depleted. After examination, I heard my father say *Madam* your child is not sick, only starved. Why! the mother answered, I nurse it every time it cries. (My hearers bear in mind we had no commercially made baby foods 60 years ago.) My father told her to only nurse it every 4 hours, bathe its body with cod liver oil night and morning; every four hours to take a biscuit (toast bread) put it into a saucer, lay a lump of cut loaf sugar on top and pour boiling water over it, and after each nursing fill baby's stomach with this broth, and sure enough the child improved on this treatment.

Another instance at about the same time, a child could not digest and sometimes not even retain the milk it nursed. Drugs had no effect. Some old lady told the family to take the gizzard of a chicken, split it open, shake out the contents, but not to wash it, boil this gizzard in a stew pan with a little water, and give the little one 1-2 teaspoonful of this broth every hour or so, and sure enough the child began to retain and digest the milk nursed. So we see it is not always the fine hairsplit scientific modes that bring about cures.

Now and then representatives of the numerous concerns that manufacture infant's and invalid's proprietary foods come to our offices and present us with samples, pamphlets, etc., etc., of their special brands. They tell us if we will make use in practice of their particular line of goods, we will cure every case presenting, and by so doing outstrip our competitors and turn all their practice toward us.

What a fallacy! We should not listen to them, but rather recall a few lines of the chorus of a song popular some 40 years ago which runs as follows:

"Now all young men with tender hearts pray
take advice from me,
Don't be too quick to fall in love with every
new girl you see.
For if you do you soon will find you have only
loved in vain," etc., etc.

I do not like the term or the word competitor

in the medical profession, for if we only serve from a commercial or financial standpoint we put ourselves on a level with the shyster and the charlatan. We should be brethren, members of the great family of benefactors to mankind, and only strive to see who can best work and best agree and try to aid each other in conquering and preventing diseases and so be a blessing to the present and future generations, and try to live in keeping with the sublime Golden Rule given us by the greatest of all Physicians, who, while on earth taught us to do unto others as we would have them do unto us.

GOITER ET HYPERTHYROIDISM.*

BY J. B. HASKINS,

Chattanooga, Tenn.

It is phenomenal what the last decade of experimentations and clinical observations have done to enrich our knowledge, which is still woefully lacking (according to the prodigies of our art) of the function of the thyroid and parathyroid glands.

The literature is also rich in contributions from the physiological and pathological sides.

The appreciation of the remarkable internal secretions of which the thyroid is one of the most important, has greatly stimulated original investigations. The physiology of the thyroid in this connection has assumed a different valence. Alterations in its function produces great variations not only in regard to its own function, but in some great and mysterious way upon the associated functions of the other ductless glands, most notably the adrenals. It seems from a review of the literature that our knowledge of simple goiter is classical, and that Kocher has perfected its surgical treatment in its minutest detail.

The pathology of exophthalmic goitre has been extensively investigated by many pathologist and most especially by Wilson, McCallum and McCarty. The increasing frequency of surgical removal of the diseased thyroid gland has

given the pathologist an exceptional opportunity to study its morbid changes and to definitely associate them with the varying clinical phases of this very interesting, complex disease. The results of accumulated knowledge in the examination of all forms of thyroid disease the world over, is that there is a definite increase in the parenchyma of the gland in all forms of exophthalmic goitre with evidence of over activity of cell secretion. This evidence may present itself in several ways.

(a) Increase of cells in each alveoli.

(b) Increase in number of alveoli.

(c) By papillomatous invagination into the vesicles of the gland.

All of these changes may be throughout the gland or only in areas of it.

C. H. Mayo says that pathologists who are experienced in this class of laboratory work are usually able to give the symptoms and stage of the disease from a typical microscopic slide and from the form of the degeneration of the tissues in some cases, can estimate the probable condition of the heart, liver and essential organs.

He further states that a thyroid which presents this condition of hyperthyroidism and does not destroy the life of the individual or destroy itself, must at some period of its activity revert back to simple goitre. Then colloid will be deposited with iodothyroglobin and the gland will lose its apparent cell activity and the individual will become the subject of hypothyroidism as shown by varying degrees of myxoedema as a terminal condition following former hyperthyroidism.

The last half decade has given to us the anti-thyroid and allied sera of Mœbius, Rogers and Beebe. Their experimentations and sera have put another speculative as well as practical value upon the investigations. The fact is that we have progressed more in the last five years in the mastery of the minutiae of this most intricate problem than we had done in the last half century. As Wilson correctly said, so much of our trouble has been due to knowing so much that wasn't so. During this short recent period of intensified interest, the tendency has been towards the elimination of erroneous conceptions about the origin of the disease; simplification of its natural and pathologic history and the perfection of at least one of the methods of cure,

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viz., the surgical. It seems to be the consensus of opinion that the essential irritating cause of the overfunctioning of the thyroid has probably to do with the elementary embryology and physiology of the ductless glands about which so much is written and so little really known.

To begin with the term exophthalmic goitre should not be used, because the exophthalmos and goitre, one or both, may be absent and the disease be very severe. According to statistics the exophthalmos is said to be absent in one-fifth of the cases.

Parry, in England, first described the disease in 1825; Graves, in Ireland, in 1835, and five years later Basedow more thoroughly described the disease known by their names or by the term exophthalmic goitre. The name exophthalmic goitre replaced the names of these gentlemen more or less on account of these two prominent symptoms.

Kocher speaks of this particular condition as a thyrotoxicosis which is quite comprehensive, but C. H. Mayo, the Goitre Wizzard of this country denominates it hyperthyroidism which seems to be the most accurate definition of the condition. It occurs much more frequently in women than in men and the greater number are between twenty and forty years of age. It is not a markedly hereditary disease. Shock is spoken of by many writers as a contributing factor, but it is very difficult to elicit a probable cause in the majority of cases. There are several symptoms in exophthalmic goitre which alone may occur in other conditions, yet, when alone or associated, lead the diagnostician to consider the possibility of exophthalmic goitre. They are the enlargement of the thyroid, tachycardia, exophthalmos, muscular tremor and general nervousness. The gland is usually enlarged but may not be palpable in exceptional cases.

If we wait for the exophthalmos to tell the tale we will often overlook or misinterpret the tachycardia and nervous symptoms at a time when it could be intelligently treated. The disease is widely, but not extensively, distributed over this country, however, if we are close observers, it is surprising how many of these cases will challenge our attention.

While the real etiology of the disease has not been figured out it is well recognized to be of a nutritional nature and our complex civiliza-

tion with its strenuosity has much to do with its causation. Prolonged mental and physical strain, great excitement, over-study, over-anxiety, too much worry, insufficient sleep and great grief most frequently predispose to it. A severe shock has been known to precipitate it and also to produce serious and at times fatal exacerbations of the already existing disease.

Crile, by his most ingenious methods, has shown that hyperthyroidism is due to the susceptibility of its victims to trauma and fear, which in response to the law of phylogenic association stimulates a pathologic discharge of nervous energy coming through the brain, secondarily stimulating the thyroid gland to over production of its fluid. Continual calls upon it by fear, as represented by the anxieties and worries of daily life, result in the pathologic condition of hyperthyroidism. He says it is not produced by success or happiness.

Some writers claim that infections such as typhoid, malaria and most especially tonsillitis, often convert a simple goitre into a very active gland with sudden and marked symptoms of hyperthyroidism.

McCarty believes exophthalmic goitre to be due to a process of reversion to some former function of the gland.

The change in the quality and quantity of the thyroid secretion, which is delivered with its poisonous characteristics into the circulation by way of the lymphatics, is responsible for the toxic manifestations which we recognize as symptoms of hyperthyroidism.

It has been demonstrated that symptoms of hyperthyroidism can be produced not only by iodine, but very frequently by feeding thyroid substance. Tachycardia and even exophthalmos has been caused by the taking of the advertised anti-fat remedies, as a treatment for obesity, which are well known to be largely composed of thyroid extract.

The gland physiologically, hypertrophies in girls about the time of puberty. It, however, usually disappears 'spontaneously' in a few months or years, or undergoes resolution with or without treatment. The gland normally hypertrophies during gestation. Obstetricians regard it as having much to do with nitrogenous metabolism. If it does not enlarge normally by the seventh month eclampsia is to be feared. When

exophthalmic goitre exists it becomes a serious complication of pregnancy.

SYMPTOMS: The four cardinal symptoms of tachycardia, goitre, tremor and exophthalmos are absolutely unmistakable. Any two of the above-named symptoms should make us very suspicious of hyperthyroidism. It should be our purpose, however to recognize the disease at the earliest possible period of its development so that we can keep our patients under observation and at the ideal time, if need be, correct its lethal tendencies, by appropriate treatment. The tachycardia may be intermittent or constant and often disappears spontaneously, usually to return again. Fine tremors of the extended fingers and extremities and of the tongue and lips and of the eyes and lids may be one of the first symptoms leading to consultation. When the tremor is well marked it very closely simulates that of chronic alcoholism. Mental disquietude, restlessness with insomnia are usually present. Late in the disease pigmentation from chronic toxemia appears and occasionally becomes so marked that it almost resembles Addison's disease.

An acute toxic case presents high temperature, great restlessness, very tumultuous heart action, nausea and vomiting which may become quite distressing. The above symptoms are often accompanied by epigastric and abdominal pain. The patient's condition very much resembles a violent septic intoxication. Active delirium followed by stupor precedes death. The acute toxic cases that I have seen, two in number, both had temperature up to 106 shortly before dissolution. The eye symptoms are numerous, and may appear early or late, and one and all of them may be present. These symptoms consist of prominence, a widening of the palpebral fissure (Dalrymple); staring without winking (Stelwag); lagging of the lids with eye movements (Von Græfe); insufficiency of accommodation at near point (Mobius). Rarely there is dislocation of the globe. Ulcer of the cornea is not uncommon in marked cases. Mayo says myocardial changes and Bright's disease may also produce some of these symptoms.

Tremor is nearly always present; eight or nine to the second, and may be associated with chorea-like movements in extreme cases with, as a rule, great muscular weakness. Tremor is

easily elicited even in mild cases by having the hand extended, fingers spread, palm down. The heart action may vary from 90 to 180 a minute, a case of medium severity being about 120 to 140. Systolic murmurs are not uncommon. So important is the symptom tachycardia, that Ochsner says that in its presence with even the slightest degree of exophthalmos or enlargement of thyroid, a diagnosis of hyperthyroidism can be made.

Associated symptoms, as excessive perspiration, occasional rise of temperature and digestive disturbances, chief of which are vomiting and failure to assimilate and sudden diarrhea are not unusual.

The pathological changes in the gland may so alter its secreting power in nature's effort at control of the over-activity that the condition of hyperthyroidism or myxoedema often supervenes. Mayo says very few of these cases are recognized as such because of the exophthalmos. The patient then has the harsh, dry, thick skin with open pores, loss of hair, cracking nails and great dread of cold. There are deposits of fat over the shoulders, the facial expression is changed and broadened. Mental dullness is marked and is due to the starving for thyroid fluid. The unbridled activity of the adrenal secretion then, as it were, blocks all the capillaries and thus expends its action upon the integument and cortex of the brain.

The heart muscle degenerates in chronic hyperthyroidism and dilatation with its attendant ills ensues. Vague mental disturbances from altered nutrition of the nervous system appear and when fatty degeneration of the liver occurs the patients rarely recover. When these latter conditions exist the desperate condition of the patient should not be taken into account for the death is made a debit against the surgical side.

Kocher says that marked diminution in the neutrophile and eosinophile leucocytes with increase in lymphocytes and slow coagulability is a typical blood picture.

Beside the symptomatic and radical treatment, it may be said that the most promising forms of medication at the present time are,

(1) The neutral hydrobromate of quinine suggested by Forscheimer and used by Mead and Jackson with 69 per cent and 75 per cent of cures, respectively in two groups of cases.

(2) The anti-thyroid serum of Rogers and Beebe which is very flatteringly spoken of in selected cases, by a number of writers.

The xrays have been tried for this as for most other diseases. Kocher thinks they have slight effect and are sometimes contraindicated on account of their influence on the skin. Mumford, after a careful study of the xray in hyperthyroidism says they have little or no benefit, except occasionally in lessening the symptoms and in preparing the patient for operation. Mayo employs it and says improvement may be marked for a time, but is seldom lasting. It can and occasionally does, aggravate the symptoms very alarmingly and in one case which I observed, fatally.

Kocher, in speaking of the various and sundry treatments of this disease, said: "To say that surgical treatment is the best is not enough. It has proven itself far superior to any other form of treatment. It attacks the organ which is instrumental in producing the hyperthyroidism. It is shown statistically to offer the best results and at the present time early operation is considered by all writers the best treatment."

Mayo estimates that one-fourth of the cases come for relief in a condition precluding anything but ligation of the superior thyroid vessels.

Ligation of the superior thyroid arteries and veins as proposed by Wolffler, in 1886 with sometimes a small portion of the gland is indicated in two classes of cases.

(1) The cases presenting very mild symptoms in which the cutting off of the blood supply will stop the enormous multiplication of cells upon which hyperthyroidism depends.

(2) The extremely advanced cases when thyroidectomy is too hazardous for the operation per se and from the degeneration from the prolonged toxemia. Ligation, then, in the first class of cases is curative, and in the second is a temporary remedy, but is extremely effective in this class of cases. It really transfers them from the hopeless, radically inoperable class to a condition of so marked an improvement that the complete operation may be undertaken later

on. Mayo especially recommends ligation in cases hardly severe enough to require thyroidectomy.

The anæsthetic of choice is ether by the open, drop method. Cocaine infiltration may be substituted if the extremely serious condition of the patient demands it, or if the surgeon prefers it, or lacks confidence in his anæsthetist. If ether is used, we administer hypodermically morphia 1-4 grain and atropine 1-150 grain. These drugs allay the tracheal mucus and act as a stimulus and reduce the necessity of profound narcosis by quieting the mental distress.

The patient is placed upon a table in the reverse Trendelengurg position, the head thrown back and the shoulders elevated to render the thyroid area more prominent and accessible.

Ligation of vessels. A transverse incision is made in the skin crease crossing the thyroid cartilage, and the wound is deepened to the gland between the omohyoid and the sternomastoid muscles. All of the branches of the superior thyroid artery are secured at the apex of the lobe in one mass ligature which includes the superior veins as well, and in some cases, a bit of the upper pole of the gland. The ligature material is linen.

The incision for enucleation and excision is the transverse collar or Kocher incision. The incision is best placed midway between the thyroid cartilage and the sternum. The incision includes the platysma-myoides muscle which is lifted above and below with the skin flap over an area sufficient to expose the muscles covering the enlarged gland. A vertical incision now separates the hyoid muscles from the thyroid cartilage to the sternum. In cases of adenoma to be enucleated, the fibrous capsule is now opened, the goitre exposed and incised to the depth of the adenoma capsule which is enucleated and the thyroid tissue closed with a locking button-hole stitch. A temporary drain of rubber tissue relieves the tension which might occur without this provision. The wound is closed with the subcutaneous suture. The drain is usually removed after the first twenty-four hours.

ARTIFICIALLY INDUCED CLIMATIC CONDITIONS AS AN ADJUNCT TO TREATMENT OF TUBERCULOSIS IN EARLY STAGES.

BY D. M. PEARCE, M.D.,

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It will be admitted by most practitioners of medicine that there is no disease, the treatment of which is attended with more unsatisfactory results than that of tuberculosis. It has come to such a pass that when the diagnosis is made that those affected with tuberculosis are already considered to be doomed to an early grave, scarcely any other disease is regarded in such a hopeless light. Why such a bad prognosis in this disease? Is it because of some erroneous conception of its nature or to a belief in the inherent incurability of the affection? Now if we had all the benefits of climate desired added to all the measures of treatment at our command, especially home treatment, non-medicinal, as well as medicinal, might we not reasonably hope for a larger degree of success? A larger percentage of recoveries from this, the greatest destroyer of human life with which our profession is called upon to do battle. In this short paper I shall not attempt to discuss the shortcomings and limitations of drug treatment, but shall confine myself to the discussion of a few measures of treatment other than medicinal, which are used in the management of the consumptive, without which all our remedial efforts would be of little avail. These non-medicinal measures of treatment are those to which artificially induced climatic conditions could be used as adjuncts. What, now, are those non-medicinal measures of treatment almost universally recommended in the management of those afflicted with tuberculosis? In the early stages, when a change of climate is usually recommended, they consist,

First, in the general supervision by the physician of the entire life of those who suffer from this disease.

Second, the physician prescribes the food he shall eat, the liquids he shall drink, the air he

shall breathe; he should also supervise the physical movements as well, protect him as far as possible from monotony and mental depression; guard him from the commission of indiscretion and in every way assist him in the re-adjustment of his life to a new environment.

What is the condition essentially of these cases as represented by the symptoms presented in the majority of instances? It consists in an exhausted condition of physiologic energy; closely related to but in no sense the cause of his disease. It is reasonable to conclude that any agency or influence which has the power to increase the stock of physiologic energy possessed by the patient, or to further exhaust the same has the power to alleviate by increasing his resistance or to aggravate this disease by decreasing his powers of resistance to disease. This then is the condition to which all our remedial efforts should be addressed. Represented as it is, largely by the early symptoms from which the consumptive suffers, his face pale and worn, losing flesh, limbs feel heavy, energy is gradually forsaking him, voice is weak, husky or lost, respiration increased in frequency, heart's action increased also; he becomes breathless when he walks too fast or runs; he complains of an aching feeling all over his body at times; he does not sleep well, feels tired and unrefreshed on rising in the morning, is feverish and nervous, his temper which was docile and even formerly, is now irritable; his appetite is poor or lost, he occasionally sweats at night; his general appearance is one of enervation and debility; his nutritive processes are so much impaired that his stock of physiological energy which depends upon two factors, heredity and nutrition is being rapidly exhausted. What can we offer the consumptive in an emergency like this? Can we offer our patient relief while this state of things is going on? No, we must stop this extravagant use of energy by all the means at our command, and at the same time add to his stock of energy by stimulating all of the nutritive processes so far as we may, with all the means at our command. This vital force or energy is to be elaborated from the food which he consumes and the air which he breathes.

Now, in what way is this vital force being used up? First in carrying on the functions of digestion, secretion, respiration, circulation,

muscular action, body temperature and fever. It is estimated by some physiologists that one-fifth of the vital force or energy of the body is used up in muscular action, the remainder leaves in the form of heat, and that by far the largest part of this one-fifth part is used up in voluntary muscular action. By what means can we best check the expenditure of vital force by the consumptive? This may be done first, by cutting off these functions which are not directly essential to the maintenance of life; and second by lessening the activity of those functions which are necessary to existence as far as possible; by placing the body at rest, the energy which is given off by muscular exercise is almost entirely checked and in this way a large saving of vital force is effected. Rest has a sedentary influence on the heart's action reducing the number of its pulsations. In this way we effect a great saving of vital force. The number of respirations will be reduced and the repose given the lungs will favorably influence the inflammatory process in which they are directly involved. This is by no means all the good that comes from keeping the body of the consumptive at rest. So long as he is engaged in business, or in active exercise every function of his body is imperfectly performed because his sum of vital force is impaired in power and therefore inadequate to give each one its needed supply. But by forcing some of the voluntary muscles into complete rest and by diminishing the activity of others, as in the case of the heart and lungs, there is not only a reduction of a total outflow of vital force leaving a larger balance for distribution among the organs which must be continued in active operation, consequently the heart performs its functions better, respiration is carried on more perfectly, digestion improves, and other organs are assisted proportionately in the performance of their functions. How long shall the patient be kept at rest and what form of it shall be adopted? These are questions which must be left to the judgment of the practitioner. No iron-clad rule is applicable here. How, now, are these measures of treatment to be carried out in order to have complete control of the consumptive? A properly constructed and well-equipped sanitarium is a *sine qua non*.

Suppose we should construct a building that should be air-tight as a refrigerator, having a

number of rooms for patients, nurses and servants. The ventilation from the upper air conducted through the basement, cooled when necessary, rarified by some process, regulated by an exhaust fan or the intake diminish by a suitable device.

Why should the air breathed by the consumptive be cold, rarified, pure, dry, poor in oxygen? Because this is the condition of the air in the best mountain climates, in all countries for the treatment of tuberculosis. This will not be called in question, I suppose.

Second, to inhibit or check the growth of the bacillus tuberculosis; and all other infectious agents which might find lodgment in the affected area of the lungs; to enable the patient to take the food prescribed especially fats and oils; the Esquimos have to take oils and fats to maintain their body heat. No one can take oils and fats in large quantities in warm climates. Food concentrated can be taken in larger quantities in a cold climate; patients can be kept at rest and made more comfortable in a cool or cold room, absolute rest is, in some cases, necessary in order to stop the loss of the already greatly depleted energy.

Another consideration of the subject of climate and the management of the consumptive is that our best climates are subject to draughts and considerable changes of temperature, rains, storms, etc., and to other infections. In the construction proposed no changes in temperature, no storms, no dust, no mixed infections, no re-breathing of the air, no danger from colds, etc., but the patient would have the benefit of an equable climate three hundred and sixty-five days in the year. No home-sickness, no mental depression, all the benefits of home treatment, no expense of travel, could have the pleasure of seeing home-folks, 'phone connections with whom he pleased. Would this not be better, if more expensive than sleeping on the porch, or spending the remainder of one's life far removed from home among strangers? If such a construction as the one proposed were practicable I feel sure it would add greatly to our remedial resources in the management of those cases who are financially and physically unable to avail themselves of the benefits of other and better climates than our own.

SERUM TREATMENT OF TUBERCULOSIS.

BY T. D. CLOYD, M. D.,

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A subject, as old as history, is the search for a specific for tuberculosis. Almost every drug in the pharmacopœia, and a large number that are not, have been recommended as a cure for this malady. So far the former have only proven to influence some particular symptom or metabolism in general. Not one of the many have ever shown any direct action on the tubercle bacillus within the human body. When Koch discovered the bacillus it made it possible to bring to a test the bactericidal action of chemical agents. But their introduction into the body in every way is either too much diluted—assuming that the contact with the diseased tissues lasts long enough—or there is danger of damaging the tissues themselves.

The experiment which led Koch to the discovery of tuberculin was performed in this way: He found that sterilized cultures of T. B. macerated in water injected into healthy guinea pigs only gave rise to suppuration; but when injected into the already tubercular pig, in far more minute quantity than would kill in a short time, their lives were saved by repeated methodical use of high dilutions. It was demonstrated that unless the bacilli were ground up that they remained at the point of injection and later gave rise to abscess. Therefore the curative must be dissolved out of the body-juices by bathing the bacilli. The substance causing the abscess remaining behind in the bacilli, this led him to the discovery of tuberculin.

Tuberculin does not kill the bacilli present in the tissues; it affects the tissues immediate to the bacilli, or that which is affected by them, causing a well-marked circulatory disturbance and metabolic changes resulting in a necrosis or a casting off in the form of a slough. Tuberculin, therefore, affect only living tubercular tissue.

The first injection into a patient having T. B. causes a certain reaction so a relatively larger dose must be given as the treatment continues.

Toleration may make itself known within a given time; but if the initial dose can in the course of three weeks be increased four to five hundred fold, it cannot be held as merely toleration, as there is no analogy for so rapid and extensive an adaptation. Koch assumed that as the reaction to the injections became less that the affected tissues were being cast off; but we today know this not to be the case, a tuberculin tolerance must be viewed as immunization against the toxin produced by the T. B. Yet from Koch's own statistics we have cases in the early stages as entirely relieved of symptoms of this disease in the short time of 4 to 6 weeks. Advanced cases improved a little, or no results, in cases of severe form with cavity formations and metastasis.

The essential feature is in its early application, we can then expect its most complete potency. This will only become a true blessing to suffering humanity, when, as far as possible all cases of T. B. come early to treatment, and when severe neglected cases no longer occur which up to now are furnishing an inexhaustible supply of fresh infection.

The modern method of tuberculin administration is to avoid reaction, we should, therefore use the minutest doses, and so allow the most advanced as well as the incipient cases to be reached. This admits of the simultaneous application of other well-proven methods of treatment, and can be carried out in private practice without sacrifice of occupation.

The steady increasing tolerance of the organism to the tubercular toxins and the immunity finally gained, since many symptoms of T. B. result from the absorption of this toxin, it is striking how headache, stitch in the side, anorexia, general malaise, insomnia, fever, night sweats, rapid pulse, glandular swellings give way to a feeling of well being, a good appetite the result; whereas, without it they belong to the more frequent complications of the poly-sided clinical picture of this disease.

Tubercular germs cause an inflammatory condition in the lung tissue which is removed mostly by absorption under treatment with Koch's tuberculins, but where processes have gone to too great an extent, breaking down occurs. No other tissue in the human body is so adapted as the lung to contraction by scar and filling up gaps,

while at the same time retaining its normal function.

In cases of pulmonary T. B., where masses of tubercles break down, conditions are present for new infection, since the bacilli are not dead if the material is not gotten rid of by the usual channels of elimination—here is where great care is necessary of each individual case and constant checking of physical signs in the more advanced cases. It is the common rule and practice to observe the temperature curve only, yet the effect of tuberculin on the general health must be weighed and noted. Each patient takes his or her own temperature every two or three hours and enters it on a chart, being instructed that if the temperature goes too high to go to bed—otherwise to exercise according to their condition. Frequent weighing of the patient is to be done, and if any loss of weight becomes perceptible, an increase in dose should be gravely considered. The interval of injection is to be governed altogether by each individual case, although one to two days apart at the beginning of treatment with a lengthening of the time between doses as the case progresses is the usual custom. It is the aim to reach the largest dose of tuberculin—in early cases an absolute cure will be the result. In case the patient has not made all the improvement possible, and the maximal dose for this patient has been reached, this dose is to be repeated at intervals, and any time increase this dose in order to retain immunity as long as it may be to stimulate the production of antibodies and thereby assist the healing process. The records of others having used tuberculin has taught us to choose the tuberculin which had caused the least violent reactions. Koch himself says the new tuberculin, or as it is now known, Bacillary Emulsion, has caused little or no reactions even after being applied to cases which were not hopeful to any treatment beforehand; therefore it was found that high agglutination values were obtained by the mild method of injection, causing less disturbances. The outcome of treatment with B. E. can be stated by the following:

1. By treatment with B. E. the agglutinating power of the patient may almost always be raised.
2. The better prospect of the improvement, the more rapid the agglutinating power raises.
3. Determination of this agglutinating power

by the Widal Reaction, while of great value, does not have to be employed in the treatment of T. B.

New tuberculin (Bacillary Emulsion) is a suspension of one part of T. B. bacilli in 100 parts of distilled water, to which an equal part of glycerine is added. The stock solution contains in 1 cc 5 milligrams of solid residue. In practice the following method of dilution is followed: The dilutant be normal salt solution plus 1-2 per cent phenol, if the solutions are to be kept several days. One syringe full, or 5 milligrams, of stock solution plus 4 syringefuls of saline; then one syringeful contains one milligram. This constitutes solution No. 1. Solution No. 2 is made by taking one syringeful of Solution No. 1 and adding 4 1-2 syringefuls of saline; this makes Solution No. 2. No 3 is made from No. 2 likewise, and so on to Solution No. 4, which would contain only 1-1000 milligramme.

In favorable cases with good general health 1-1000 mg. may be commenced with. If reactions occur, the dose should be diluted to 1-10,000 mg., then increasing the dose at each injection 1-10,000 mg. more. Watching all the time your temperature curve, and at no time forgetting the general symptoms as well. The case in which you have the least reactions is the case that most invariably does the best. The examination of sputum with a leucocyte count, also the thorough examination of chest taken into consideration with the gain or the loss in weight, the appetite, the sleep, the cough, and amount of expectoration, also the night sweats and the general appearance of the patient or any other symptom that the patient might present must all be given as much attention as the temperature curve.

At a recent convention of T. B. specialists, where the specific therapy was discussed at length, only one physician spoke against the use of tuberculin, and then only conditionally warning against exaggerated hope. There is no justice in the demand that in the treatment of phthisis only those remedies shall be employed, the efficacy of which has been established in theory or by experiment; with just as much right should the treatment of syphilis with mercury or K. I. have been regarded with horror up to a year or so ago; and, finally, the contention that the dosage of tuberculin cannot yet be so accurately determined as to avoid harm to patient has been

refuted by clinical experience of such abundance as to make objections tedious and narrow.

Experience has ripened, and we now have a well-founded T. B. therapy. The time has come for the commendation of the remedy with its new method to a wider and better circle of practitioners for their individual use—bearing in mind that the efficiency of the practitioner stands in direct relation to his technical ability, and that his experience also must be gained on patients.

May the scepticism, however deeply rooted, no longer be able to obstruct the triumphant march of Tuberculin.

OCULAR INJURIES.*

BY C. B. WYLIE, M. D.,

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Ocular injuries may be anything from a slight abrasion of the cornea to a lacerated, punctured, or contused wound sufficient to cause complete destruction of the ocular tissues. On account of such a wide variation in these injuries, it is scarcely possible to classify them in a concise and comprehensive manner for consideration.

On account of the complexity of tissues within a comparatively small area as the eye, they must be approached from a standpoint different from that which would be assumed in injuries in any other part of the body, as principals of general surgery are not of sufficient utility to be applicable to the needs of the special requirements.

Ocular injuries may involve, in any one case, mucous membrane, skin, muscle, cartilage, motor and sensory nerves, and nerves of special sense—in fact an intimate approximation of dissimilar tissues. Along with these we have two specialized tissues, the cornea and vitreous—either or both of which are usually involved in traumatism of the eye. Both of these tissues receive their nutritive elements from adjacent tissues which demonstrates how intimately dissimilar portions of the eye are associated. The ophthalmic surgeon, under such conditions, is

called upon to exercise skill, and institute measures differing very greatly from the general surgeon, in that the integrity of the fellow eye must be constantly borne in mind, and every effort put forth to prevent its involvement and possible destruction.

Up until quite recently, all text books and the leading oculists, have dwelt upon the great danger and lasting injury—and rightly so—which would result from traumatism of the so-called danger zone, which is generally recognized as that portion of the eye beginning anteriorly with the sclero-corneal margin, and extending back about one-fourth of an inch.

Generally we are agreed as to the sensitivity and great danger from traumatism in this region. Recent experience has shown, however, that the central region of the cornea, pupillary margin of the iris, and crystallin lens, or an injury of the sclera posterior to the so-called danger zone, may prove equally as destructive and far-reaching in its disastrous results, as that which may occur in the danger zone. With the large varieties of ocular injuries which may be encountered, and the complex conditions under which they present themselves, makes it impossible to adopt any hard and fast rule as to what should be done in each individual case. It is an undeniable fact that rules for treatment of injuries of the eye, are gradually being revolutionized, and that better results are being obtained from conservative treatment of injuries appearing in industrial centers where injuries of the eye are more common, and that the pendulum is gradually swinging toward conservatism, rather than toward hasty enucleation, as has been the record in the past. Our experience has been that slight injuries to the cornea, producing a small abrasion, may get well with comparatively little or no treatment, or it may assume grave symptoms within a few days and threaten the integrity of the entire eye. Where an extensive, punctured, lacerated or contused wound has involved some of the more important structures of the eye, it may give but little trouble and annoyance, and rapidly recover its normal condition. Punctured, lacerated, or contused wounds of considerable magnitude, which are early and carefully treated, and do not become infected, will many times entirely recover; but if neglected in the begin-

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ning, or if a pronounced infection is present, the opportunities for preservation of the eye are anything but promising.

Foreign bodies passing through the sclera, which remain in the eye, should be removed if possible at once, as they will be a source of danger, not only to the injured eye, but to its fellow, as long as they remain. The edge of the wound should be carefully trimmed of any fragments, and protrusion of the vitreous should be trimmed off, and a compress applied to assist in closing the wound. If it is a large wound, however, one or more sutures should be taken in the sclera to co-apt the edges. Should the laceration of the sclera extend to the margin of the cornea, there is usually some prolapse of the iris, as well as vitreous and possibly some ciliary fibres.

If an injury of this kind is seen early, and it does not seem to be an infected wound, we are justified in attempting to replace the protruding iris—provided it is not torn and lacerated—and feel reasonably sure infection will not follow. The sooner perfect co-aptation of the margin of the wound in the beginning is had, the better will be the opportunity for speedy resolution and the integrity of the eye be established.

The resistance of various ocular tissues to injury, varies in proportion to their location, their composition, and their properties of culture media to subsequent bacteria proliferation, upon all of which also depend to a large degree, the course and prognosis of a given cause.

In considering the injuries which are encountered in the ciliary region or danger zone, which may be contusions, perforations, and lacerations of the sclera, pectinate ligament, iris, Schelm's canal and the ciliary muscle and nerve, capsular ligament of the lens and ciliary body, and foreign bodies in the limbus conjunctivalis, it should be borne in mind that any or all of them, may be involved. The lacerated wounds with protrusion of iris, ciliary body or vitreous substance, are dangerous in proportion to the difficulties of securing early complete closure, with or without excision of the prolapsed or protruding uveal substance.

Conditions are likewise more or less dangerous in proportion to the time required for the

complete absorption of the effused material in the contused part.

Recovery following an injury of this kind, will be manifested by the disappearance of the injected area, by the contraction of the blood vessels to their normal size, the re-establishment of motility of the pupil, and the subsidence of photophobia. Injuries of the ciliary region are sometimes accompanied by no distinctly localized, objective signs; yet, the eye may later be sensitive to light, with profuse lachrymation and increased tension of the globe.

If such symptoms continue for several hours, acute traumatic glaucoma should be suspected. Again, such injuries may be of such trivial nature as to disappear entirely in a few hours; and some weeks later, the patient will notice gradual dimness of vision coming on, showing a development of traumatic cataract. This later condition, however, is comparatively rare.

Injuries of the ciliary region—sufficient to produce concussion of the lens—nearly always give rise to complicating pathological conditions of some of the structures enumerated as belonging specifically to the danger zone. Sympathetic irritation may present in the fellow eye within ten days, or may not develop for several years. It is rare indeed, however, that iridocyclitis does not follow to some degree, injuries in this region.

Traumatic ulcers of the cornea, should be treated antiseptically as soon as possible after the injury has been received. They frequently become infected by the foreign body, if it is allowed to remain in the wound and neglected. After the foreign body is removed, it is well to irrigate the eye with a solution of boric acid. Atropine should be instilled at once, regardless of age, and the eye bandaged with an ice pad.

Frequently a scratch from a finger-nail or a bruise of the cornea by a foreign body that does not become lodged in it, produces an ulcer. When these accidents occur, the treatment already described should be immediately instituted. Interference with the vision will depend on the location of the injury; if it is on the margin of the cornea, the sight will not be noticeably interfered with; the more nearly it approaches the centre, the greater will be the obstruction of vision.

If the ulcer is seen several days after the in-

jury, and pus has developed or hypopyon made its appearance, the eye should be cocaineized after which the application of a 20 per cent solution of trichloroacetic acid is most beneficial, and its good effects become manifest after three or four applications. When trichloroacetic acid is first applied to the ulcer, the spot becomes white like coagulated albumin. In twenty-four hours, however, the cornea will assume a healthy appearance, the ulcer will have become clearer, and the pus—if any is present—will disappear with greater rapidity than under any other treatment.

Traumatism applied to the globe of the eye may result in non-perforating or perforating wounds of the iris.

Non-perforated wounds are always due to concussion, such as induced by a blow upon the eye. They include traumatic mydriasis, rupture of the iris at its pupillary margin, and iridodialysis or separation of the iris from its ciliary attachment.

Traumatic Mydriasis consists in permanent dilatation of the pupil, and results from paralysis of the sphincter at the pupillary margin. Eserine should be instilled in this condition.

Rupture of the iris includes tearing of the pupillary margin and complete ruptures of the sphincter of the iris, and mydriasis is present. In small lacerations it may be very difficult to detect the gaping. Atropine should first be instilled and followed later with eserine.

Traumatic cataract is produced by an injury to the lens; the most common cause being the entrance of a foreign body through the cornea which ruptures the lens, although cases have been reported in which the lens was dislocated or even ruptured without any wound of the coats of the eyeball.

It is only in very rare cases that a foreign body enters the lens substance without producing cataract. The mere pricking of the lens with the point of a knife, as may accidentally occur in performing an iridectomy or paracentesis, is sufficient to produce cataract and there is no question that the condition has frequently been produced in this way.

If the capsule is perforated by the entrance of a foreign body, the aqueous is admitted to the substance of the lens, which may rapidly become opaque. Should, however, the perfora-

tion be rather small and superficial, the attendant danger may be very slight, since there is a possibility that the lips or edges of the minute wound will unite, in which case if an opacity does form it will not be extensive. On the other hand, if the wound be larger and deeper, a greater amount of aqueous is admitted into the lens, which consequently becomes swollen, and, by exerting pressure on the iris and ciliary body, may set up an inflammation involving these bodies. This inflammation may be either serous or purulent, depending upon the extent and nature of the irritation.

The lens usually become more rapidly opaque in younger than in elderly individuals. Cases have been observed in which the entire lens become completely cataractous in the course of a few days after the injury.

Acquired dislocation or luxation of the lens is usually traumatic in origin. It may be partial or complete. Its situation varies according to the intensity and character of the violence that produced it; sometimes the lens is found posteriorly in the vitreous, and at others anteriorly in the anterior chamber. In very rare cases attended by rupture of the sclera it may lie beneath the conjunctiva.

The sclera, choroid and retina, are subject to incised, lacerated, and punctured wounds, all of which may be infected or non-infected in character. Non-infected wounds are the least dangerous and usually heal rapidly. Infected wounds, on the contrary, nearly always induce panophthalmitis. Although the sclera may be injured by traumatism applied in various ways, it usually receives its injury from the entrance of foreign bodies.

Foreign bodies which partially penetrate the sclerotic should at once be removed with delicate forceps. Small fragments of glass are the most difficult to remove, since they pass through the conjunctiva and find lodgment in the sclerotic. The only way to remove the glass, which is generally invisible, is to locate it by gentle pressure, grasp the conjunctiva, raise it, and cut out conjunctiva and episcleral tissue with curved scissors. This sometimes is all that is necessary; if the glass is buried in the sclerotic it can then be taken out with delicate forceps. Foreign bodies that escape the ordinary methods for their detection may be located by the

X-ray, or the magnet in the case of metallic particles.

In cuts of the sclerotic, with escape of the vitreous, it is best to cut off the band of vitreous and apply a pressure bandage; or, if the wound is very extensive, 1-2 to 1 centimetre of the conjunctiva and episcleral tissue may be drawn together by a suture.

Injuries to the ocular coats may produce hemorrhage between the sclera and choroid and retina, producing a detachment more or less extensive, which is always a serious complication.

Hyalitis is an inflammatory condition of the entire vitreous humor. It seldom if ever occurs as a primary affection, and is attended by the formation of pus in most cases.

Arising as a secondary affection, its causes are those of the primary disease. A low state of the general health is an important factor in its production by lessening the resistance of the vitreous to microbic infection. In most cases the introduction of pus-producing micro-organisms is the principal cause, particularly in those instances in which the inflammation follows penetrating wounds, foreign bodies in the eyeball, and choroiditis after the infectious fevers, such as scarlet fever, erysipelas, etc. The inflammation is often preceded by retinitis, uveitis, irido-choroiditis.

The entrance of foreign bodies into the orbit may involve the optic nerve. In such cases atrophy follows but does not manifest itself at once, while rupture of the nerve is attended by immediate and complete blindness. Concussion of the nerve or hemorrhages into its sheath may occur with suspension of vision more or less permanent. A great variety of injuries of the optic nerve may follow traumatism to the skull, particularly fracture of the base and of the orbit. Vision is lost and atrophy follows. In fracture of the base of the skull the hemorrhage travels beneath the meninges and sheath of the nerve, causing loss of vision, and eventually, in the course of three or four days, appears beneath the conjunctiva.

The mode of procedure in ocular injuries for

controlling all pain, and the prevention and treatment of such complications as may arise, must be governed entirely by the individual case. For internal medication the mercuries and salicylates stand at the head of the list of remedial agents. In some cases the pain will be so intense and persistent as to require opium in some form during the first day or two. Pain if marked, continuing more than forty-eight hours following an injury, must be looked upon with suspicion as tending toward sympathetic irritation. Should such a condition present itself, massive doses of the salicylates should be given for a few days. It is surprising the tolerance with which the system will accept large quantities of this drug.

Should an ocular injury be so extensive as to destroy all possibility of further usefulness of the organ, or where complications should later arise which should threaten the integrity of the fellow eye, early enucleation should be resorted to.

It would be useless for me to attempt to describe here in detail the operative procedure indicated in all cases, but where it is possible to retain the sclerotic shell by thoroughly evacuating the posterior chamber of all vitreous, retina and choroid, including the ciliary processes—excising the posterior ciliary vessels and nerves, and inserting a gold or glass ball within the sclerotic shell, suturing the corneal margins of the sclera, this procedure should be instituted as it gives a much better stump for the use of an artificial eye. This is known as Mules' operation. The claims which he sets forth for this procedure, which he adopted several years ago, still hold good and are:

First—It secures a retention of the frame work of the eye. Second—A firm, round, globe forms a perfect support for an artificial eye. Third—Perfect harmony of muscular movement is retained. Fourth—When such a case is fitted with a selected eye, it defies detection. Fifth—There are no qualms as to the personal appearance of the patient. Sixth—There is no interference with the growth of the orbit.

SUBCONJUNCTIVAL INJECTION IN EYE DISEASES.*

BY E. B. CAYCE, M. D.,

Nashville.

My attention was first called to this subject by an article which appeared in the *Annals of Ophthalmology* in the June number by Major Smith who advised the subconjunctival injection of cyanide of mercury for the cure of incipient cataracts. His report of cases was very interesting, as he offered something of value in cases in which we had heretofore to patiently await the maturing of the cataract with the inconvenience and gradual blindness that is so trying on the patient, as well as the doctor.

Soon after this article appeared, Dr. Savage reported to the Academy of Medicine some cases of acute and chronic glaucoma that had been relieved by injections of citrate of soda. Later he reported some marvelous results in detachment of the retina, by the same treatment.

I have not yet had the opportunity of using this treatment in detached retina, but have had successful results from using it in several cases of acute and chronic glaucoma.

I am indebted to Dr. E. L. Jones, of Cumberland, Md., who has perhaps done more work along this line of treatment than any other man in this country, for information obtained from the valuable paper he presented to the section of Ophthalmology at the last meeting of the American Medical Association. He says:

"I have no theory which satisfactorily explains the curative powers of these injections in the wide range of conditions to which they are applicable. In inflammatory troubles, they are antiphlogistic; in indolent conditions, they increase circulatory activities; in septic troubles, they check sepsis, and where sepsis is impending, prevent it. In specific troubles, they avail much, but surely not by reason of the small amount of specific drug in them."

In using the injection of citrate of soda, I use

the method suggested by Dr. Savage, which is 20 grains of citrate of soda to an ounce of water.

In using the cyanide of mercury, I have varied the method as suggested by Dr. Woodruff, using a solution slightly weaker, combined with a smaller amount of cocaine solution; this being 12 to 14 minims of 1 to 1,500 cyanide of mercury with 2 minims of 4 per cent cocaine solution. The cocaine solution is the last drawn into the syringe, this syringe being an all-glass affair, easily sterilized.

I do not find it necessary to use fixation forceps, as the introduction of needle through the conjunctiva is not painful, if the eye is properly cocainized.

As the reaction is intense, I do not advise it in cases that will respond to milder treatment, but I do think many eyes are lost that could be saved by the treatment. However, I have not found the reaction so dramatic as has been reported by some.

All cases which I report were treated in office and returned home without any great inconvenience. One patient was so rejoiced over results obtained from first treatment, was quite willing to undergo the temporary discomfort of a second injection. I will report a few cases which show its wide field of usefulness.

CASE REPORTS.

No. I.—Mrs. C. B. W.—age 48—came November 25, 1911, complaining of blurred vision in left eye. On examination found vision in right eye one and two-tenths and vision in left eye ten-tenths. On fundus examination, found pathological cupping of disc; on palpation, tension plus 1; there were no external evidences of pathology in the eye, and absence of pain.

Diagnosis of simple chronic glaucoma was made, and patient was given a solution of eserine and told to report in ten days. I did not see patient again until September 5, 1912, when she came in saying "the right eye was beginning as the left had done." Also stated that the drops I had given her were painful and she had only used them a few days. On examination found vision in right eye with plus 75 sphere one and two-tenths; left eye, perception of light; tension in right eye slightly above normal; tension in left eye plus 1. In taking field of vision

*Read before Nashville Academy of Medicine, February 25, 1912.

found that it contracted to a small area in the macula region.

I explained the gravity of the condition and advised subconjunctival injection of citrate of soda. She readily consented and injection of same was given, and was repeated once a week until four had been given, as will be shown by accompanying perimeter chart.

After the last injection, she was told to report in a month. She telephoned two days ago that she was having trouble as she did at first, and I advised her to come in at earliest possible moment. Have not seen her again.

The unusual points in this case are these: The grave condition of her eyes with absolutely no external manifestation; the acuity of vision with marked contraction of field of vision and necessity of making a fundus examination in every refraction case.

No. II.—September 20, 1912—was dismissed October 16, 1912. E. A. B.—age 25—moulder by trade. Unable to work on account of intense suffering in left eye. Patient had been under treatment most of that time. When I first saw him, pupil was widely dilated, but as I saw no evidence of iritis, I discontinued atropia. The conjunctiva and episcleral tissue were very much inflamed.

Diagnosis of episcleritis was made. He was put on the usual local treatment with large doses of salicylate of soda internally with no improvement.

I then advised a sub-conjunctival injection of cyanide of mercury to which he readily consented as he was getting in desperate straits from his long-continued illness.

I explained to him fully the re-action he must expect. The injection was given and after 48 hours, the eye was fairly comfortable. He was dismissed and returned to work two weeks after injection was given.

No. IV.—W. H. C., September 13, 1912, motorman, age 34.

This case was referred to me on account of painful condition of right eye. He gave history of having had similar trouble in left eye five years before, which after several months became quiet. On examination found deep circumcorneal injection, with iris discolored, and very small pupils; left eye an annular synechia with exudate almost completely blocking pupil-

vision 1-10. Diagnosis of serous iritis was made.

Treatment—Hot compresses with double strength atropia, with anti-rheumatic treatment internally. After ten days, very little improvement. I then gave injection of cyanide of mercury with 1-150 gr. of atropia. The patient left next day for a week in the country. Immediately upon returning, he reported, and I found the eye quiet, the pupil 2 m.m. in diameter and vision 8-10. He was dismissed and returned to work.

No. V.—M. M. W., age 53, engineer.

Was called down to local infirmary to see man with badly injured eye. He gave history of having been struck in eye with piece of glass when heated oil cup exploded.

On examination I found large triangular wound taking up almost the entire inferior nasal quadrant of cornea. Anterior chamber empty; iris caught in wound and upper part of wound extending into sclera. His eye was cocaineized and cautiously examined to see whether any glass remained in the eye.

Feeling satisfied there was no foreign body in the eye, two drops of 50 per cent argyrol solution was instilled, patient put to bed and kept absolutely quiet for 48 hours.

Atropia every four hours with cold compresses changed every ten minutes. After the third day, patient was allowed to go home, and ordered to report at office each day. On eighth day iris became inflamed; punctate spots appeared on posterior portion of cornea. I advised injection of cyanide of mercury as I felt it was only chance to save eye. Injection was given same day and patient suffered intensely for about twelve hours; 1-2 gr. of morphia being necessary to obtain relief.

The swelling of conjunctiva almost covered cornea and lower lid was very much swollen.

Within six days rapid improvement took place and lens began clearing in upper portion. After two weeks, eye showed marked improvement and patient could count fingers at six inches. On 21st day, second injection was given. Patient can now count fingers at three feet; eye is absolutely quiet, and patient feels ready to return to work.

I feel that this is a case in which there is no reasonable doubt that an eye was saved by the conjunctival injection of cyanide of mercury.

THE NEEDS OF THE EYE, EAR, NOSE AND THROAT SURGEON IN GEN- ERAL HOSPITALS.

BY FRANK ALLPORT, M. D.,

of Chicago, Ill.

All eye, ear, nose and throat specialists are well aware of the difficulties to be encountered in endeavoring to do their work in general hospitals.*

We visit such institutions as the New York Eye and Ear Infirmary, the Massachusetts Eye and Ear Infirmary, etc., and we envy those surgeons who seem so easily to dispose of their work. In these institutions we find permanent operating room nurses and internes who serve long terms and who become familiar with their duties. We find good instruments, solutions, lights, wards, etc., all arranged for the convenience of the surgeons and for the benefit of the patients. The surgeon is thus enabled to give his entire time and attention to his work, his operations and his service, which, of course, results in a quiet undistracted mind, better scientific thought, and a higher percentage of good results. The work proceeds easily and comfortably, accompanied with only a minimum amount of confusion and irritation, and with equipments and apparatus for ordinary and extraordinary occasions. To work in such institutions is a privilege and a pleasure, and it is an incontestable fact that, whatever may be the cause, whether it resides in the men themselves, or in their atmosphere and surroundings, or whether it is the combined influence of both, men who work in such institutions, as a rule, stand at the head of their profession and become recognized leaders and teachers.

In sharp contrast with these almost ideal working conditions, let us picture the difficulties encountered by the eye and ear surgeon in endeavoring to perform his duties amid the bewildering surroundings of a general hospital. It is not too much to say that he works in an alien atmosphere from beginning to end, in

which he is constantly compelled to fight for his own rights and for the rights of his patients. Everybody is interested in surgery, in general medicine, in obstetrics, etc., but hardly anybody is interested in ophthalmology and otology. This is true of the superintendent, of the head nurse, of the internes, and of the operating room nurses and other nurses. A general hospital interne, who takes any particular interest in ophthalmology and otology, and who intends to make this his life work, is a species of interne that the writer seldom sees. The consequence is that this service is an undesired one, and barren of interest to the interne, who therefore gets through with it as quickly and easily as possible. Such unwilling and perfunctory assistance is entirely unsatisfactory to the oculist, who learns to depend less and less upon it, until, through force of circumstances, he pays but little attention to the interne, and learns to do practically all his important work himself; or, if he has an assistant in his office, he avails himself of this assistance, not only in his office work, but in his hospital work as well. The assistant accompanies him in his hospital rounds, makes independent calls, dresses patients, assists at operations, etc., etc., and in fact, almost usurps the function of the interne, an improper situation, which has been largely and gradually evolved by the conduct of the average hospital interne himself. Such conditions occasionally precipitate unfavorable criticism from the medical staff, and from the internes themselves; the former, feeling that proper discipline is not being maintained, and the latter feeling that they are being ignored and their places supplanted by interfering usurpers. The surgeon is sometimes called upon to defend himself under such conditions, and he is reminded that hospitals are training schools for doctors, and that the internes are giving their services to the hospital in exchange for experience, and that therefore it is their right to receive from each attending medical man all the instruction that the material affords. Such protests are not frequent, however, for, as a rule, the average interne is only too glad to shirk the eye and ear service; still such protests do occasionally occur, and when they occur a defense is necessary.

The writer has already given some reasons why the services of the average hospital interne

*For the convenience in writing, such specialists will, hereafter in this article, be usually designated as 'oculists and aurists,' or 'surgeons,' although the writer includes under this one title men who do all kinds of eye, ear, nose and throat work.

is unsatisfactory to the eye and ear surgeon; but in addition he desires to say that our specialty is quite unlike any other specialty, and requires special training, experience, adaptability and delicacy of touch and manipulation.

The writer has seen eyes ruined after operation, by willing, but untrained and clumsy internes, and a few experiences of this kind are not conducive to the fostering of ideas concerning the desirability of training green and transient internes at the expense of human eyes. An interne may be quite capable of dressing ordinary wounds, and of doing ordinary hospital, surgical and medical service, and yet be quite incapable of dressing eyes after cataract or other operations, or of dropping medicine into the eye without inflicting pain and injury, or of dressing a head after a radical mastoid operation, without defeating the purpose of the operation. Oculists and aurists, therefore, frequently form the habit of devising methods by which they can at least measurably, dispense with the services of the interne, either by doing the work themselves, or by deputizing it to their office assistants. Even when (as occasionally happens) an interne appears who seems to take a real interest in this department, the surgeon's general line of conduct has become so well-defined, that it hardly seems worth while to change it for the brief space of one interne's service in this particular department.

And this brings us to a consideration of the great undesirability of short interne services in general hospitals. It is a fact that no intelligent surgeon will dispute, that the usual short term of interne service in a given department is not conducive to good work and is irritating and unsatisfactory to all concerned, for no sooner does an interne begin to wear off the newness and become really useful when he is transferred to another department, and a new man presents himself to be initiated into the mysteries of the department. This difficulty is overcome in some hospitals by allowing internes to serve only in a limited number of departments during their months of duty. This plan seems to be quite satisfactory where it has been tried, but the writer believes that some better method will be devised by those who are giving special thought to the subject. Certain it is, that until eye and ear surgeons can command the services of in-

ternes for many months of continuous service, these young doctors, however willing and earnest they may be, cannot be of any great utility to this department. At the present time, and under existing conditions, hospital superintendents of nurses and nurses, seem to think that the main object of hospital work is to educate internes and nurses. My own opinion as to the use of hospitals is, that they exist for the purpose of benefiting the sick, and for the convenience of physicians, and *incidentally* for the education of internes and nurses.

And this leads naturally to the subject as to how the eye and ear department in a general hospital can best utilize the services of the general hospital nurse. When it comes to being of any real assistance to the surgeon in his work, the general hospital nurse is nearly a hopeless proposition. This is not an ill-natured criticism; it is simply a statement of an unfortunate fact; neither is it a reflection upon the nurse, or her intelligence or willingness, as this statement is only possible because of circumstances and conditions over which the nurse has no control—namely, the constant changing of her location and occupation from ward to ward and from service to service. Between educating new nurses and new internes, and patiently enduring their mistakes and shortcomings, the path of the attending oculist and aurist in a general hospital is certainly not strewn with roses. The writer wishes again to emphasize the fact that he is not blaming these young people, indeed, he is not blaming anybody—he is simply endeavoring to present his subject truthfully, for the purpose of ultimately producing better conditions.

The oculist and aurist in a general hospital has his patients scattered from ward to ward and from room to room. As he progresses from place to place he is constantly confronted with a new nurse and with new conditions. If an interne goes with him, he may carry a tray of drugs, instruments, appliances, etc., for whose reliability as to cleanliness, aseptic qualities, etc., no one can vouch, as it is no one's duty in particular to guard the dependability of these articles. He is, therefore, constantly in fear of using impure solutions, dirty droppers, infected ointments, etc. Sometimes each ward or room contains the particular articles he intends using

on the patients in that particular locality; but here again he is confronted with the same fear of contamination that is in evidence when he is using solutions, etc., from a migrating tray whose reliability is more than doubtful, and he is almost certain to want something, such as a solution, a light, a probe, an ophthalmoscope, etc., that is not at hand and that takes much time and confusion to secure. And so he proceeds from one portion of the hospital to the other, changing nurses from place to place, encountering fresh obstacles and annoyances as he continues in his calls, dressings, etc., until he emerges from the hospital tired and dissatisfied with his work and the conditions under which he is obliged to prosecute his labors. Besides this the proper fulfillment of the surgeon's orders in the interim between his visits, in a general hospital, is a practicable impossibility. The ever-changing ward nurse is quite incompetent to instill drops into the eye, or to irrigate an eye, or to put ointment into the eye, or to change bandages, or to irrigate or dress an ear, etc., etc. And as these things cannot be done properly during the surgeon's absence, he either dispenses with such necessary attentions altogether, or has them performed as infrequently as possible, in order to guard against the occurrence of damage occasioned by an inexperienced and therefore incompetent, not to say dangerous nurse.

The operating room conditions for the oculist and aurist in the general hospital are thoroughly unsatisfactory. The head operating-room nurse is by no means a fixture in most hospitals, and her time is usually absorbed in laparotomies, amputations, etc., so that when the eye and ear surgeon desires to operate, he is usually assigned to one of the assistant nurses. There are several of these endeavoring to obtain operating-room experience, so that it may easily happen that the surgeon may be assisted by an ever-changing new nurse in his operations from day to day. He is thus irritated and annoyed, and therefore more or less incapacitated from doing the best work, by being constantly obliged to coach the nurse in her duties, and by using poor knives, scissors, sutures, etc., that are out of order, owing to the lack of proper inspection. In fact, the general hospital operating-room nurse has no conception of the instrumental necessities of instructions for the proper performance of

ophthalmic surgery. Her ideas of surgical instruments are based upon those required to do large surgical work, and the necessities of a cataract or iridectomy knife, or a pair of de Wecker scissors, or a proper needle, are apparently beyond her conception. She drops cataract knives into a tray, with perfect unconcern, and allows them to collide with the sides of the tray, without any conception of the delicacy of the knife, or with the fact that it should not be used at all if its point is not perfectly true. Nor does it do any good to instruct her for she may be gone from her operative experiences tomorrow, and a new face, with all of its discouraging possibilities may confront the surgeon. These are some of the difficulties that constantly confront the oculist and aurist who endeavors to do his work in a general hospital. The writer has not completely covered the ground by any means, but he has perhaps said enough to afford an insight into the subject. Again he wishes to disclaim any intention of critical indulgence upon hospitals, internes or nurses, they are merely the natural products of misconceptions.

Eye and ear work was the first to become isolated and it still is the most clearly defined of all the specialties. Almost all general physicians and surgeons refuse to do any appreciable amount of eye and ear work. They frankly admit their ignorance, and do not care to overcome it. This idea prevails amongst internes and nurses, who consequently take but little interest in this clearly defined and isolated specialty, which is therefore neglected as much as possible during their hospital service.

Having thus, at least to a degree, called attention to certain unfortunate conditions interfering with desirable eye, ear, nose and throat work in general hospitals, let us endeavor to see if something cannot be done to remedy such conditions.

Concerning the interne situation, the writer has the following plan to suggest: What is needed is a long service of perhaps one year. Of course, it would not be possible to dictatorially appoint staff men to a year's service of this nature, without first gaining their consent; but if it was known that a certain hospital had a large eye, ear, nose and throat service, to which men desiring such work could be assigned for

a year or more, the writer is inclined to believe that the position would be kept constantly filled. It should probably best be understood that while such internes would consider their eye, ear, nose and throat service to be of primary importance, yet they would be expected to work in other departments if their time was not fully occupied. This would probably be an additional incentive to secure the position, for most young doctors are anxious to round out their education, and to secure as much general knowledge and experience as possible. Eye, ear, nose and throat hospitals are comparatively few in number, and there are many young men desirous of special hospital training, who are unable to secure an internship in such special hospitals who would eagerly grasp at a prolonged special service in a high-grade general hospital. Such hospitals could, if thought desirable, issue a special certificate to those men who have served a year or longer in this department. The writer believes this plan is feasible and practicable, and could be successfully carried out in hospitals having a sufficiently large service to be a temptation to the embryo specialist.

This plan as just depicted, is now being carried out in St. Luke's Hospital in this city. Some time ago Mr. Curtis, the superintendent, told us that if we desired it and he could find a suitable man, we could have our own exclusive and continuous interne. Some pessimists believed a man could not be found who would be willing to give up a year's time to what eye, ear, nose and throat experience he could secure in a general hospital, but with remarkable promptness Mr. Curtis had about fifty applications for the position, from which he selected a man who is now the special eye, ear, nose and throat interne of St. Luke's Hospital. He will always have one or two junior internes working under him, who will change their service once in two months. The chief interne will have complete charge of the indoor and outdoor eye, ear, nose and throat service of the hospital, and at the end of his year's service he will be given a proper certificate. He will be present at all operations, and will himself do all the operating it is possible to entrust in his hands. It should be clearly understood that this interne is the eye, ear, nose and throat interne for the entire service, and that his services are just as

much at the disposal of specialists that are not on the staff as they are for staff members. There is no salary connected with the position, but the interne is supplied with his living expenses. He is at liberty to do all the pathological work in the laboratory he desires, and we hope soon to have a special paid eye, ear, nose and throat pathologist at St. Luke's as we all recognize that the average general pathologist is not qualified to perform satisfactory pathological work in our department.

Concerning the nurse situation, the writer believes we have at St. Luke's Hospital gone a long distance in solving this vexed problem. Some years ago, recognizing the necessity for better service, we secured through the cordial co-operation of the superintendent, Mr. Curtis, and the head of the training school, Miss Johnson, a nurse who was assigned especially to our department. She was an undergraduate and her term of service was for three months. Her first duty was to us and to our patients, but if her time was not fully occupied she could be assigned to other work. She kept the eye and ear trays stocked with fresh dependable solutions, ointments, droppers, instruments, pads, bandages, cotton, etc., etc., and always made the round of calls with the surgeons. She dressed and treated the patients between visits, kept the operating room instruments in order, and always present at operations to be of all possible assistance, although she did not supplant the function of the operating-room nurse. Just before her term of service expired another nurse was appointed to take her place, and for several days she instructed the new nurse in her duties, so that the break in service would be as little apparent to the surgeon and patient as possible. In this way, it will be observed, four special nurses were educated in a year, and these nurses have been most valuable to the staff, who always request the employment of these nurses in case private nurses are desired in eye, ear, nose and throat cases. This plan worked very well for some years, but the need of continued service was constantly apparent to all concerned. Just as the nurse became of real service and dependability she would be exchanged for a new one, and then the educational process would begin all over again. The superintendent then still further improved our department, and en-

hanced the possibility of superior work by giving us an experienced graduate nurse to stay permanently on our service. She received a regular salary, lives at the hospital, is an officer of the institution, and has immeasurably lightened our burden and relieved our responsibilities. She has four assistant undergraduate nurses a year, who are assigned to her service and who are instructed by her. This is done for the purpose of relieving the special nurse of certain routine work, and also for the purpose of continuing the process of educating nurses concerning the duties of eye, ear, nose and throat nursing.

The possession of our special interne and special nurse, has led us to hope for still better things in the future. We hope and believe that if our present conditions work harmoniously and successfully, and if our earnestness and usefulness to the hospital are further demonstrated, that within a short time a floor of the hospital will be devoted to our service, where we will have a superintendent, with nurses, sufficient internes, with a chief interne in charge, wards, rooms, operating rooms, dressing rooms, etc.—in short, a hospital within a hospital where the cares of management will be lifted from our shoulders, and where the advantages of a special hospital will be at our disposal.

One of the most useful steps for the upbuilding of a successful eye, ear, nose and throat service, in a general hospital, is the establishment of a regular day and hour for an operating clinic, where operations shall be performed, and where doctors and medical students shall be welcomed. If there is sufficient material, two or more operating days should be established, and these days should be filled with unfailing regularity and should be made as interesting as possible. At St. Luke's we now have two such days. Upon Thursday afternoon for many years all kinds of eye, ear, nose and throat operations have been performed, and recently Tuesday afternoon has been set aside for all kinds of nose and throat work. Before long it is believed that more days will have to be add-

ed, and we hope that soon continuous operative work in our department will be performed every day in the week. The necessity for filling up these operative days is a great inspiration in the search for proper operative material. Besides this, it magnifies the importance of the department, keeps the beds filled, keeps the special interne and nurse busy, and undeniably maintains and improves the technique and experience of the operator.

Every hospital, supporting a live eye, ear, nose and throat department, should possess an active dispensary for the treatment of these diseases, which should be under the charge of the eye, ear, nose and throat surgeons of the staff, aided by the chief eye, ear, nose and throat interne and his interne assistants. Such a dispensary is desirable, not only because it affords experience in refraction and other general work in these specialties, but because it must surely become a most important source of operative supply to the regular operative clinic. Outside of special hospitals or infirmaries, where the daily attendance of patients is abundant, it is not an easy matter to keep one, two or three operative clinics a week well supplied with material. Every effort should be made to bring this about, and of the several available methods a good live dispensary is one of the best.

This paper has been written with the purpose of suggesting how the eye, ear, nose and throat work in general hospitals can be improved, and made better and more convenient and useful for all parties concerned.

The writer explained to you what we have done and are trying to do at St. Luke's Hospital in this city, but he does not wish to be understood as claiming a perfect service at this institution, as much remains to be done. But of one thing he is sure—that the service in our department, under the present conditions, is infinitely superior to what it once was and that the ideas carried out in this hospital might with great benefit be put in force in all general hospitals.

7 W. Madison St.

PATHOLOGICAL CONDITIONS OF THE GALL TRACT AND TREATMENT OF SAME.

BY T. O. BURGER, M. D.,

McMinnville, Tenn.

In considering this subject broadly, I feel free to discuss gall stones in the bladder or ducts, or inflammatory conditions of either. However as stones are the cause of most pathology they will be given most consideration.

To attempt to estimate the number of people harboring gall stones is impossible; though from the larger clinics and post mortem findings, we are compelled to acknowledge that a larger proportion of people are the possessors of the foreign bodies than was once supposed, especially is this so of the multiparous woman past middle life. On averaging a large number of estimates it seems that about 5 per cent is as near as can be gotten, for all ages.

Gall stones are formed in the gall bladder in all cases and may travel to any of the ducts, even the hepatic, or may find their way to other regions as the structure of liver or into the intestines by ulceration. The exact cause of their formation is still unknown, a large majority of the cases follow typhoid fever, dysentery, or pregnancy: and the belief is that germs find their way to the gall bladder and are the nucleus of their formation; the *bacillus coli communis* the most frequent source.

The old text-book stereotyped description of the terminal stage of destruction from gall stones is not modern and is now supplanted by "Physiological Pathology" given us by surgical investigators, who note the abnormal in all its departure from health, and at the same time noting the symptoms associated with the pathology found.

Gall bladder disease is following the course of appendicitis of two decades ago in two ways; first that it is much more common than previously supposed, and second that surgery is doing much to alleviate so much ill health and prevent so many unnecessary deaths.

We are all, as wide-awake physicians, learning that the stomach instead of being the most common organ in the body to be prescribed for,

is in itself very seldom diseased, but so often only acting as the fire alarm box of the abdomen. Take as an example strangulated hernia, where are your symptoms? To be sure in the stomach, as sick stomach, vomiting, and even the pain is mostly in the upper abdominal region, just as in appendicitis, gall stone attacks, and intestinal obstruction. A number of the best known surgical teachers today, say other than cancer, ulcer, and an occasional tumor there is no stomach diseases per se. This may sound rather extreme, though there is certainly a great deal of truth in it.

Gall stone, or better gall tract disease is certainly the cause of the so-called stomach disease.

Gall stones depend to a certain extent, on the physical conditions namely; size, number and shape as to the symptoms and pathology produced. A few small, smooth stones may pass without any symptoms other than the attendant attacks of colic produced, leaving a healthy gall bladder, and ducts; or there may be many stones and infection of the tract with the usual symptoms of mild infection. Again we may have the single large stone producing the empyema of gall bladder with the prominent symptoms shown in this condition. But the type of stones that I wish to call attention to is the type where we do not have the classical symptoms of colic, jaundice, and other plain symptoms of gall tract involvement, but the type once called "innocent" but this is a very bad term as I will try to show later. A better one is "quiescent" (W. J. Mayo).

As stones are unquestionably foreign bodies, and are irritants they are the forerunners of cancer in a very large number of instances, being present in most all cases of pancreatic diseases, therefore we are not justified in the use of the term innocent. It is these stones that are the cause of so much ill health that people have for the larger part of their lives, and the cause of so many failures to cure our patients, with all our pepsins, Hcl. acid, stomach washing, dieting, and the host of other measures used in the attempts. These are the patients often with the torpid liver, the headaches, the dyspeptics, the bilious attacks, the ones who are never well but who go on through life to probably fifty years, when cancer develops and the end is at hand. I said these are often due to gall tract

disease, and it has been proven in many hundred cases to be true. If not, what is your pathology in such cases? In these patients we often see a spasm of the pylorus, due to the close nerve connection in these two organs. We can usually make a diagnosis by a thorough physical examination, together with a properly taken history, yet it is impossible to always know until opening the abdomen absolutely whether you have gall tract pathology, gastric or duodenal ulcer, or other unexpected findings. The infected gall tract is often rather vague and misleading in the symptoms produced, but when one remembers that there are extremely few lymphatics draining the gall bladder, but more that drain the common duct, makes it easier to account for the absence of fever in the empyema of gall bladder and the high fever in duct infection. This fact also is very important to remember in giving a prognosis, the gall bladder filled with pus is a very much safer surgical procedure to deal with than is the duct infection especially so if we have a co-existent jaundice.

What shall be our advice to these people with stones? If there is colic relieve the pain if possible to be sure. The cases that we have been considering though are the ones we are to discuss especially the ones, that have the continuous invalidism or semi-invalidism whose stomach keeps telling us that something is wrong in the abdomen. Shall we continue to give our indigestion remedies, advise the various diets, send to the different springs (if financially able), and finally let them drift into the hands of the quacks who eventually give them dope, or until other pathology, as pancreatitis, develops or malignancy ends the chapter? Some of these cases I grant you will get well or symptomatically well without or in spite of the treatment.

Then I make a plea for surgery if done in time and with the proper safeguards, which offers these patients only a mortality of about one death in 200. Deaver, the great surgeon of Philadelphia, says that the mortality following the present-day surgery, is the mortality of delay rather than the mortality of surgery, and

this can well be said of this class of troubles. The removal of stones from the gall bladder when there are no complications is simple, easy, and safe. While the removal of a stone from the common duct with its attendant infection and jaundice is anything but safe or easy. But this is often a necessity to offer the patient any chance. After long standing trouble, removal of the gall bladder becomes necessary, and while not as difficult or as dangerous as common duct stone surgery yet it is not as desirable to do for good reasons.

In a paper of this type I do not attempt to deal with the technique of the various operations that are so well perfected at the present time.

A case illustrating this class will be briefly reported as follows:

A. B.—A female, fifty years old. Mother of several children, with a negative history up until past middle life, began to have indigestion, headache, an occasional cramp colic of short duration, later had "dyspepsia," with always a fullness in the stomach, some heart burn, and about three years ago had a severe attack of "bilious colic" requiring considerable morphine but after this attack she had no more than her usual stomach trouble until September 15, 1912, when she had a very severe attack which was partially controlled by morphine by her family physician.

In about three days patient began having fever and septic symptoms and I saw patient on the 19th and advised immediate operation which was agreed upon for the next day. On opening the abdomen I found the gall bladder gangrenous and a localized abscess over cystic duct which was pretty well walled off by adhesions, packing well I drained a considerable quantity of pus and opened the gall-bladder, removing thirty-seven stones, bile, mucus, and pus. Drained well and patient made a rather rapid recovery considering seriousness of her condition at operation and conditions found. Patient at present is perfectly well and has no symptoms of any kind, illustrating a type of which there are hundreds in Warren County today.

THE JOURNAL**OF THE****Tennessee State Medical Association****Office of Publication, Jackson Building, Nashville, Tenn****MARCH, 1913.****EDITORIALS****WHAT'S THE USE?**

What's the use? It appears that the Tennessee State Medical Association might as well abandon all effort to place and keep the medical conditions of our state on a decent basis. For many years one of its important standing committees has been the Committee on Public Policy and Legislation, charged with the duty of promoting needed legislation and opposing that of an undesirable or vicious character. In the past the committee has been able to accomplish much both for the benefit of the public and for the honor of the profession. But the times seem radically changed. The General Assembly now in session has been deluged with measures of every conceivable kind intended to lower professional standards and render the public still more easy prey for the multiplying cults, each of which loudly proclaims itself the sole possessor of knowledge and truth. And for the first time these delectable brethren have been able to back their appeals for recognition by petitions *signed by fellows of this Association*. Result: The legislative committee's influence and opposition was discounted in advance.

To be more specific: Two measures providing for full recognition for "Chiro-practics" and "Mechano-therapists" have been introduced in both the Senate and House, and both have been acted upon favorably by the reference committees. In fact, the former has been passed with a saving amendment restricting its application to the county (Knox) whose representative introduced and championed it. The self-respecting members of the Association can imagine how pleasant it was, when this measure was being discussed, for our committee to hear this gentleman vociferously declare that these "doctors"

were marvelous healers of the sick; that they had numbered among their patrons in the recent past three members of the Supreme Court, all of whom were restored to perfect health after the regular physicians had failed; that he himself was a living proof of their great skill; that 16 or 17 of the leading physicians of Knoxville (whose names he called) not only endorsed them and their methods, but referred cases to them constantly, etc. If these statements were true—and the editor does not doubt it, for he has personally seen a petition unqualifiedly endorsing a kindred cult signed by ten or more of the well-known members of the Knoxville profession—the passage of the bill restricting it to Knox County is a matter for congratulation. If the Knoxville profession wants and needs such confreres, for pity's sake let them have them.

But what about the remainder of the state? Would it not have been more seemly for the bill to have been drawn originally to apply to Knox County only, and not attempt to foist these wonderful healers on the profession and public of the whole state? Or shall we assume that humanitarian considerations prompted the desire of our Knoxville brethren to share their precious possession with their friends and fellow citizens? Let us view the matter charitably, if we can find even an improbable reason on which to base a charitable view.

We shall not stultify the intelligence of our readers by entering into a discussion of the merits—or rather demerits—of these measures. The only plea made or that can be made for them—namely, that they do not seek to confer the right to practice medicine—is obviously false and misleading. The treatment of disease, not the administration of drugs, constitutes the practice of medicine, and this fact is known of all men, physician, jurist and layman alike. Only the woefully ignorant or the willfully blind can be deceived by this specious argument. But we cannot refrain from protesting with all the vehemence of our outraged professional pride against members of this Association lending their names to the furtherance of schemes at once derogatory to the time-honored principles of our calling and subversive of the best interests of our fellowmen. Truly, these are strange days into which we have come—and perilous, not to say disastrous!

It is high time that we call a halt and take

stock. Ordinarily the pessimistic note finds no echo in these columns. But the present crisis is one that calls for action. If as an Association and as a profession we mean to abandon the ideals and purposes for which we have so long contended, in God's name let us do it openly and speedily.

What's the use? And again, what's the use?

FRIEDMANN'S TUBERCULOSIS CURE.

The amazing silence on the part of medical journals in this country, concerning a medical discovery, which we are asked to believe is the greatest in history, is ominous indeed.

Dr. Friedmann more than three months ago promised to render accessible to the members of the Berlin Academy of Medicine full information relative to this notable discovery, but it seems that he has rather preferred Americans to his native countrymen. However, it remains to be seen if he will divulge the secret to reputable scientific bodies of medical men or will do in this country as he is reported to have done in his own—attempt to patent his method.

Dr. Felix Klemperer commenting in his paper upon the new treatment says he was in possession of Friedmann's living turtle germ which he had obtained from the leg of a policeman, on which an abscess had formed as a result of injections by Friedmann.

"A few days after I had obtained Friedmann's bacillus in this way, I found out that Dr. Friedmann had applied for a patent on a "method of preparing curative and protective materials against tuberculosis." The patent was applied for on July 10, 1911, and came up for consideration November 14, 1912. The period of protest expired on January 14, 1913."

Dr. Klemperer thinks this the reason he has not given up his secret before this.

In reviewing the discussion on Dr. Friedmann's paper at the Berlin Academy of Medicine it can be seen that his views did not meet with the approval of many eminent men who were there and even his statements were challenged by several. His former claims for the curative properties of his turtle bacillus as early as 1893 were not accepted by scientists and some men went so far as to state that there

was nothing distinctive in the bacillus which he claims to have discovered. In 1904 he united with the Hoechst Dye Works, a concern which is engaged in the commercial manufacture of serums and other products, claiming that it was necessary to do this, "in order to test his experiments on a large scale."

Dr. Friedmann's conduct, to say the least, is in striking contrast to the conduct of others who have had "a message to deliver."

Koch gave the world his epoch making discoveries, von Behring his diphtheria antitoxin, Jenna his vaccine, Erlich his salvarsan and on down through the list, but Dr. Friedmann has so far failed to do so. The medical world waits with bated breath for Dr. Friedmann to speak, and for his own reputation as well as our interest in humanity we hope he will do so, soon.

THE OPPORTUNITY.

We are keenly aware that for a number of months the burden of these columns has been medical legislation. Without apology for again recurring to the well-worn theme, we are glad to state for the comfort of our readers that this will probably be our last offense along that line. There will be no further occasion.

When this issue of the JOURNAL is distributed the members of the General Assembly will still be at their homes, but with only a few days of the legislative recess remaining. These gentlemen are the friends and neighbors of members of this Association, ready and willing as such to listen with open minds to any requests or suggestions that may be offered. It is entirely possible for them to be fully informed and favorably disposed toward each of the several public health measures to be acted on when they return to the capitol, if the physicians at home will bestir themselves. This is THE OPPORTUNITY.

As we have taken occasion to observe a number of times, the local committee on Public Policy and Legislation, earnest and self-sacrificing though its members are, cannot be required nor expected to secure results without the active support of the whole profession. With the Legislature in session the demands upon the time and attention of the members is so great

that it is next to impossible to obtain satisfactory individual hearings, however meritorious and important the matters to be presented. And that is what is required to accomplish the purpose, *individual hearings*. These can be obtained *now* by the home physicians. Why not do it?

The measures of special interest which have already been introduced are the Vital Statistics Act, the Medical Practice Act, and the bill providing for the establishment of a state laboratory. As far as could be told when adjournment for the recess occurred, the prospects for each of these measures were encouraging. But the average legislator is prone to act as though politics instead of the real interests of his state were the chief duty and purpose of his existence. And therein lies the danger, but a danger which we may easily remove from the path of the measures referred to by taking just a little trouble to ourselves. Let us stop considering, deciding that we will speak or write to our representatives in their behalf, and *do* it, remembering that a constituent has the right to be heard and that he is listened to when he speaks.

Now, how many will respond to this appeal? It would be interesting, and no doubt surprising, if the exact number could be known.

Wake up! It is your cause for which we plead.

MEMBERS TAKE NOTICE!

The meeting is only a few weeks off. We are anxious for the title of your paper, in order that the program may be completed. The Committee on Scientific Program take advantage of the *JOURNAL* to issue a general invitation to our members, and this is your notice. The next meeting which occurs in Nashville April 8, 9 and 10, gives promise of being the best attended and

most interesting meeting we have ever held. Make your arrangements to attend. The Committee on Arrangements promise every one a good time.

Doctors are prone to forget themselves in the stress of business and professional engagements. We are constantly answering the demands made upon us, often for trivial affairs, by the sacrifice of much needed rest, to say nothing of recreation. It is a duty, however, which we owe ourselves as well as our clients to remember that the meetings of the State Association furnish us with rest, refresh our minds medically, help to keep us abreast with the latest advances in our profession, and afford us an opportunity to renew old friendships and enjoy the society of our fellow practitioners. The meeting of the State Association should be an occasion to which every member should look forward with pleasure, and they should make every effort (even at the sacrifice of a few calls) to attend. The men who are really interested in medicine and who attend the local medical society as well as the meetings of the State and National Associations, are the ones usually at the head of the profession in their respective communities. We may not think so, but the public know and approve of their doctors going off to attend medical meetings. Not long since in conversation with a gentleman from an adjoining town, relative to a doctor, whom the writer was commending, the patient answered: "Yes, I know Dr. ——— very well. He is an up-to-date man, and is now away doing post-graduate work in an eastern city. He has never done my practice heretofore, but I shall have him in the future because I think it is a doctor's duty to go away and see work as other men are doing it." This sentiment expresses the feeling no doubt held by many of the intelligent, and is evidently correct.

Make your arrangement to attend the State Society at its next meeting in Nashville, April 8, 9 and 10.

NEWS ITEMS.

Dr. and Mrs. R. E. Fort, of Nashville, have returned home after visiting relatives in Boston and New York.

Suit for \$10,000 was filed on February 26th against Dr. Wm. Compton, of Davidson County, by James Wattersen for alleged malpractice.

Dr. Melbourne Clements, of Chattanooga, announces the removal of his offices to 301-302 Van Deman Building, corner Eighth and Main Streets.

The legislature passed an enabling act permitting Hamilton County to issue bonds for \$100,000 for the erection and maintenance of a hospital in Chattanooga.

Those members interested in Pediatrics, and wishing to have a separate section on same in the Southern Medical Association, will confer a favor by writing Dr. C. A. Rhodes, Atlanta, Ga.

Dr. E. T. Watkins, of Memphis, is in New York City, familiarizing himself with the Friedman Method of treating tuberculosis. Dr. Watkins is representing the Memphis Board of Health.

The members of class of 1893 of the University of Tennessee will celebrate the twentieth anniversary of their graduation by reunion at Nashville during the meeting of the State Society April 8, 9 and 10.

Dr. W. L. Dudley, Dean of the Medical Department of Vanderbilt University, has gone to Florida on account of ill health, where he will spend a few months. We trust the doctor may return to us much improved.

Dr. R. E. Fort, of Nashville, is in New York City. We are informed that he is there for the purpose of selecting some full time teachers for the Medical Department of the University of the South, which will open in Nashville in September.

The members of class of 1901 of the University of Tennessee are called to meet in Nashville during the session of the State Association April 8, 9 and 10. Dr. H. M. Meredith, of

Scottsville, Ky., is chairman of the Committee on Arrangement and a letter to him will receive prompt attention.

Dr. Cunyngnam Wilson, of Birmingham, Ala., addressed the Chattanooga Academy of Medicine on Friday evening, February 28th, his subject being, "The Surgical Treatment of Intestinal Stasis and Its Association with Chronic Dilatation on the Duodenum." The doctor's address was well prepared, and was enjoyed by all present.

Dr. John Young Brown, a prominent surgeon of St. Louis, was the guest of the Nashville Academy of Medicine on March 4th, holding a clinic in the afternoon and presented a paper at night on "Some Phases of Intestinal Obstruction."

Dr. Young was the guest of Dr. W. D. Haggard while in Nashville.

The Surgical and Gynecological Society of Knoxville held its first public meeting in the Lyceum Auditorium, Thursday evening, February 6, 1913. The meeting was largely attended and a most excellent program was enjoyed. Music was rendered by Esquire and Mrs. Knabe.

The essayist for the evening was the President, Dr. Benj. B. Cates, who gave a most interesting and instructive treatise upon the subject of "The Present Status of Cancer." This paper was gotten up especially for the laity, but enjoyed the unique distinction of being interesting and instructive to the profession as well.

General discussion followed, after which the members retired to their private hall and enjoyed a very delightful smoker through the courtesy of the President, Dr. Cates.

This Society was organized in Knoxville, January 2, 1913, for the purpose of the advancement of medical and surgical sciences relating to surgery in all its branches and to gynecology, to promotion of friendly intercourse among its members and the stimulation of original investigation and discussion of subjects pertaining to these special branches.

It was decided that each incoming president shall deliver to the Society an annual address upon a subject of his own selection.

The officers for the ensuing year are: Dr. Benj. B. Cates, President; Dr. H. J. Kelso, First Vice-President; Dr. Albert G. Kern, Second Vice-

President; Dr. Herbert Acuff, Secretary-Treasurer.

The Society meets on the first Thursday night of each month, and visiting surgeons and gynecologists are cordially invited to attend.

On February 25 Governor Hooper vetoed the bill, passed with an amendment, which made it apply to Knox County only, legalizing the practice of chiropractics in Tennessee. The Governor's reasons for so doing are given below:

"The purpose of this bill is expressed in its title, 'An Act Regulating the Practice of Chiropractic in Tennessee.'

"This is local legislation run mad. The bill applies only to Knox County, and is designed for the benefit of two individuals in that county, who have been indicted for violating the law regulating the practice of osteopathy.

"The bill provides that any person having a diploma regularly issued by the Carver Chiropractic College of Oklahoma City, or any other legally chartered and regularly conducted school of chiropractic, who shall have been in personal attendance as a student in such school for at least twenty months, shall be authorized to administer chiropractic.

"No State Board of Examiners is required, as in the case of other branches of the medical profession. The diploma from any sort of chiropractic school is sufficient authority to turn loose the practitioners of chiropractic on the public.

"This is an unjust discrimination in favor of chiropractic, and is an imposition on the people.

"As a matter of fact, chiropractic, notwithstanding its claims to the contrary, is merely an unlearned and inefficient imitation of osteopathy.

"Here is the definition of chiropractic given by its own authorities:

"'Chiropractic is the science of adjusting by hand all subluxations of the 300 articular joints of the human skeletal frame, more especially the fifty-two articulations of the spinal column, for the purpose of freeing impinged nerves which cause abnormal functions.'

"This, as I understand it, is an acceptable definition of osteopathy.

"This bill, therefore, virtually authorizes unskilled, unexamined and unlicensed men to practice a form of osteopathy, a science already reg-

ulated by a rigid statute. Whatever our opinion may be as to osteopathy, we must concede that its practitioners maintain a high professional standard, and that our laws protect them in so doing.

"Chiropractors should be required to abide by regulation similar to those which govern other professions in our state."

PRELIMINARY PROGRAM.

The reader will observe the very excellent character of the following program so far arranged by the committee. Send the title of your paper before March 20th to the Secretary in order that it may be published in the April JOURNAL and in the program for the meeting, which must go to the printer on that date.

"An Illustrated Lecture on the Kidney," by Ramon Guiteras, M. D., New York City.

"Shockless Operations with Especial Reference to Abdominal and Exophthalmic Operations," by Geo. W. Crile, M. D., Cleveland.

"Acid Intoxication in Children," by Isaac Abt., M. D., Chicago.

"School Hygiene," by Frank Allport, M. D., Chicago.

(Title to be announced later), by Wm. F. Braasch, M. D., Rochester, Minn.

"Intra-Abdominal Abscesses and General Peritonitis with Special Reference to Etiology, Pathology, Prognosis and Treatment," by F. D. Smythe, M. D., Memphis.

To open discussion; R. E. Fort, M. D., Nashville.

"Report of Cases Treated with Brown's Modification of Hodgen's Splint," by W. M. McCabe, M. D., and Jos. Gallagher, M. D., Nashville.

To open discussion; L. L. Sheddan, M. D., Knoxville.

"The After Treatment of Surgical Cases," by L. E. Burch, M. D., Nashville.

To open discussion; J. A. Crisler, M. D., Memphis.

"Chronic Intestinal Stasis," by E. M. Sanders, M. D., Nashville.

To open discussion; E. T. Newell, M. D., Chattanooga.

Symposium on Cerebro-Spinal Meningitis.

"History of Dyer County Epidemic," by W. P. McDavid, M. D., Dyersburg.

"Bacteriology and Pathology," by Wm. Litterer, M. D., Nashville.

"Symptoms and Diagnosis," by E. A. Thayer, M. D., Mobile, Ala.

"Treatment," by Louis Leroy, M. D., Memphis.

"Sub-mucous Resection of the Nasal Septum," by Hilliard Wood, M. D., Nashville.

To open discussion; E. C. Ellett, M. D., Memphis.

"Osteo-plastic Operations for Pott's Disease, with Exhibition of Case," by R. W. Billington, M. D., Nashville.

To open discussion; W. C. Campbell, M. D., Memphis.

"Orthodontia," by N. C. Leonard, D. D., S., Nashville.

To open discussion; C. J. Broyles, M. D., Johnson City.

"Earth Burial," by S. M. Miller, M. D., Knoxville.

To open discussion; W. B. St. John, M. D., Bristol.

"Herba Panacea," by W. B. St. John, M. D., Bristol.

To open discussion; McPheters Glasgow, Nashville.

"Business Side of Medical Practice," by D. L. Flanary, M. D., Dyersburg.

To open discussion; Scott Farmer, Cookeville.

(Title to be announced later), P. H. Faucett, M. D., Columbia.

"Backward Displacements of the Uterus; Stereopticon Illustrations," by C. N. Cowden, M.D., Nashville.

To open discussion; S. M. Miller, M.D., Knoxville.

"Intra-Cranial Hemorrhage," by Robt. Mann, M. D., Memphis, Tenn.

To open discussion: T. O. Burger, M.D., McMinnville.

"Puerperal Eclampsia," by J. A. McCulloch, M. D., Maryville.

To open discussion; J. T. Altman, M. D., Nashville.

"Adenitis in Children," by O. W. Hill, M. D., Knoxville.

To open discussion; Jas. H. Atlee, M. D., Chattanooga.

"The Treatment of Acute Intestinal Obstruction," by W. A. Bryan, M. D., Nashville.

To open discussion; S. M. Miller, M. D., Knoxville.

"Notes on the Therapeutic Value of Some of the Physical Agents; As High Frequency Current," etc., by J. M. King, M. D., Nashville.

To open discussion; C. B. Wylie, M. D., Chattanooga.

"Three Cases of Prolonged General Suppurative Peritonitis Pointing at the Umbilicus, in cision and Cure," by W. D. Haggard, M. D., Nashville.

To open discussion;

(Title to be announced later), by W. H. Witt, M. D., Nashville.

"Inguinal Adenitis Treatment," by E. T. Newell, M.D., Chattanooga.

To open discussion;

"Paroximal Tachycardia," by F. J. Runyon, Clarksville.

To open discussion;

MARRIAGES.

Mr. C. C. Fowler, son of Dr. S. B. Fowler, of Gainesboro, married Miss Elizabeth Love, of Nashville, February 27th.

Miss Mary Brown Eve, daughter of Dr. Paul F. Eve, of Nashville, married Mr. Jos. Wilhoit Fall, of Nashville, February 27, at First Presbyterian Church.

Dr. T. J. Coble, of Shelbyville, was married to Miss Mabel Louise Holt, of Nashville, February 18th.

DEATHS

Dr. R. P. Cochran, a well known and beloved physician, residing near Mt. Zion, was brutally shot and killed near his home while driving in his buggy. Dr. Cochran was 35 years old, was married, and had one child. The full particulars of the shooting have not been given, but we learn that some arrests have been made. We trust that the guilty parties may be apprehended and be made to pay the full penalty.

COUNTY SOCIETY PROCEEDINGS.

MACON COUNTY.

The Macon County Medical Society had a very interesting meeting on Saturday, February 8th, at Lafayette, Tenn. Dr. J. Y. Freeman was elected Secretary to complete the unexpired term of Dr. F. M. Blankenship, who resigned. The following delegates to the State Medical Association were elected: Drs. Y. H. Allen, J. Y. Freeman; alternates, Drs. D. M. Ford, Patterson East. We are glad to report that the Macon County Society is very much alive and that all the leading physicians in the county are becoming active in the work. The next regular meeting which will be held on the 2nd Saturday in March we hope to make the most enthusiastic in the history of this Society. We expect to have an all-day meeting and expect every physician in the county to be present.

J. Y. FREEMAN, M.D., *Secretary*.

BEDFORD COUNTY.

The Bedford County Medical Society met in regular session February 19, 1913. Called to order by Vice-president, Dr. W. T. Robinson, with following present: Drs. W. G. Moody, W. S. Pyatt, W. M. Orr, J. P. Taylor, E. W. Patton, R. E. Shelton, W. T. Robinson, Spencer, F. B. Reagor and T. R. Ray. On motion of Dr. Moody, which was carried; the reading of papers and discussion was made first order of business after reading adoption minutes, for all future meetings, in place of clinical reports coming first. Dr. J. P. Taylor read an interesting paper on Palliative Treatment of Uterine Displacements which was discussed by Drs. Moody, Ray, Spencer, Reagor and Taylor in closing. Dr. W. T. Robinson read paper No. 2 on Uremia which was discussed by Drs. Taylor, Ray, Shelton, Moody and Robinson in closing. Under miscellaneous business was discussed the bill offered in Legislature now in session to be repealed, the bill allowing physicians to register as pharmacutists in towns of two thousand inhabitants or less; the unanimous sentiment of this meeting was against the repeal of this bill. All felt a self-appointed committee of one to see our representatives and ask and urge them to vote against this bill. After which adjournment till next meeting.

F. B. REAGOR, *Secretary*.

WASHINGTON COUNTY.

The Johnson City and Washington County Medical Society held its regular monthly meeting Thursday night in the office of the Secretary, Dr. Cox. The following members were present: Drs. H. D. Miller, Randall, Kennedy, Matthews, Long, West, Broyles and Cox; visiting, Dr. C. S. Kinzer, of Kingsport, Tenn., who applied for membership; Dr. Sherrell (colored); also Misses Hodge, Andes and Morris, trained nurses. Minutes of the January meeting were read and approved, except the Secretary should have said that the officers were elected at the December meeting, instead of at the January meeting.

Under clinical cases, Dr. Kennedy justified his position of the former meeting by producing good authority for his statement (which at the time was questionable) that tuberculosis was a causative factor in "Herpes Zoster."

Dr. Long reported a case of eclampsia with fatal results. Convulsions occurred in this case several hours after confinement. She rallied and appeared to progress nicely without elevated temperature for six days, and suddenly expired at night, supposed to have occurred in a seizure. The doctor did not examine the urine for waste products. Special stress was laid upon the importance of making these tests in all cases of pregnancy before confinement by those discussing the case. Dr. Matthews reported a case of extra uterine fibroid, or diagnosed as such, in which he gave a history which was peculiar. The patient suffered with a sudden onset of pain in the rectum, which necessitated morphine, absence of menses for six weeks, after the seizure. A careful examination of the abdomen revealed a tumor closely attached to the womb, of considerable size. Following the seizure there was a slight bloody discharge which has continued for some time. The patient thought she was six weeks pregnant. The examination of the organ did not indicate the existence of pregnancy. The peculiar symptom of sudden onset in this case was thought by the doctor to be out of the ordinary, as such a tumor apparently would have long ago brought about such a condition. The discussion was free, and the question of ectopic pregnancy came in for inquiry; but the doctor felt that his diagnosis was well founded.

Dr. Broyles reported a case in which he had removed an eye which had been blind for sixteen

years on account of sympathetic ophthalmia. Imbedded in this eye was found a piece of steel or iron. The sympathizing eye regained its usefulness as shown by tests, in a short time, from a vision of 15-200 to 20-40. The doctor laid special stress on the importance of removing blind balls to protect the other eye, which was timely.

Dr. H. D. Miller, the essayist, at this juncture read his paper, "The Responsibility of the Profession in Combating Tuberculosis." The paper was well written and forcibly presented by the doctor, and in the discussion of his paper the compliments from members were very gracious.

The special feature that called forth the discussion and interest was the importance of educating the public by the profession, more rigid ordinances and laws by the incorporated towns and legislature of the state; the enforcement of the spitting ordinance; inspection of meats and food stuff offered for sale, dairy inspection of milk, public drinking cups, and urging the installation of a City Board of Health for such work. etc. At the conclusion of the Doctor's paper a resolution was adopted: "That a committee of six be named to take action with the authorities and legislators to better the existing preventable measures, the public welfare demanding it. The committee to be composed of three physicians and three laymen, to be selected by the three physicians." The committee selected were: Drs. Matthews, Cox and Miller.

Well-wishes were voiced by the Society to Dr. Sells, who is now in a hospital.

The Society then adjourned after one of the best meetings in the history of the Society.

Dr. Matthews is the essayist for the February meeting.

J. W. Cox, *Secretary*.

DYER COUNTY.

Dyer County Medical Society met Thursday, February 6th, at 2 p. m., in the Courthouse. The entire afternoon was devoted to the discussion of meningitis, principally the spinal puncture, technic, indications for the use of the serum, carriers and the prophylaxis.

Up until February 1st, the total number of cases of meningitis in Dyer County was one hundred and forty-six, with sixty-seven deaths. Prior to January 4th, a systematic record was not kept, but out of the sixty-eight cases, thirty-

three deaths were reported. The majority of the mortality rate up until this time was due to the non use of the curative serum. Out of seventy-eight cases that were reported from January 4th to February 1st, there were only twenty-three deaths. Nine of those who died positively refused the serum. Of course, at the present time, we cannot state absolutely that all of the seventy-eight will entirely recover, but forty of these have recovered. The number of doses of serum usually given were from one to five; however, the majority have recovered with one, two, three and four doses. Dr. McDavid, of Mengelwood, gave one negro ten doses before he could find the meningococci entirely absent from the spinal fluid. This negro has entirely recovered.

The physicians here are now able to trace, in a majority of instances, the carrier to the person who contracted the disease. It is amazing to know what a hotbed carrier a person may be, and he, himself, not show any symptoms or effect from the meningococcus. Nearly all of the families where the disease has occurred have been examined for the germ with a large per cent being positive. One man who has nursed a patient, in the early part of our epidemic, was found to be a carrier, and a month later was found to be the cause of a boy contracting the disease in an entirely different neighborhood. The only history that we could get of the case was that the young man and the old man were together in close contact for probably one hour and on just one occasion. Suspicion was so strong against the old man that an examination was made which proved positive, and, after confining him in the pest house and spraying his nose and throat for 5 days, the meningococci were still found in large numbers. But after using a forty per cent solution of argyrol, three applications, the meningococci entirely disappeared. It will be wise to note that the prophylactic measures heretofore advocated will not apply to every case. Several people, three physicians, one member of the County Board of Health and a sanitary officer, all of whom had used the spray several times daily, but only the Dobell's solution, were found to be carriers. It is very necessary that every person, and especially those attending patients infected with meningitis, should be examined, microscopically, almost daily, and where the meningococcus is found, it will take not less than three applications of argyrol, from ten to forty per

cent solution, to destroy the cocci. This is to show that in some instances Dobell's solution will not do to depend on entirely, but as a common rule it is quite efficient for the laity, if properly used.

The upper nasal mucus membrane seems to be the main habitat for the meningococcus in the carrier. Unless proper precaution is taken, it is possible to make a swab from the nose and not come in contact with the upper part of the air passage and be entirely mistaken in the diagnosis.

As to vaccination, this is unquestionably one of the best adjuncts as a prophylactic measure for both preventing the spread of the disease and modifying the seriousness of the individual case. So far in Dyer County only three persons have contracted the disease after the second dose of the vaccine. In these cases, two doses of the Flexner Serum were given to two of the patients, and only one to the other. Patients recovered in a very few days. Even one dose of the vaccine seems to modify the disease, and we believe that it is unquestionably one of the greatest things that we have had to cut short the spread of the epidemic. From this brief report, you can see that all measures so far used are not absolutely

curative, and neither have they prevented an occurrence in every case here or elsewhere. But by isolating the patient and by giving the Flexner Serum, every eight to twenty-four hours, as indicated, and by vaccinating those exposed, also spraying the nose and throat, at least three or four times daily, and carefully making microscopical examinations of the secretions of those who are detained in the house with those infected, this will meet the ordinary requirement and give practical results. Where the carriers are found, swab them out for several days with a forty per cent solution of argyrol and those who seem to be more susceptible, let them use a ten per cent solution of the argyrol and the spray, three or four times daily. You will find this more effective than the Dobell's; at least, it is far less irritating to the mucus membrane. The efficiency of argyrol in destroying the meningococci may be equally compared with that of the gonococci. Strength of the solution has not yet been determined, but even in the stronger solutions we do not get objectionable results from its use. Although a little more expensive, it is far the most efficient remedy for the prevention and the destruction of the cocci.

O. DULANEY, *Secretary*.

STATE MEMBERSHIP LIST

The Tennessee State Medical Association

A complete list of those who have paid Association dues for 1913 will be published in this and occasionally in succeeding numbers of the JOURNAL. The list published below includes only those whose dues were received by the Treasurer up to March 1. Errors in name or address should be reported to Secretary Bromberg at once to facilitate prompt correction.

This list, as published, constitutes the mailing list of the JOURNAL, and any member failing to receive his JOURNAL is requested to write for a duplicate copy. No name has been intentionally left off. If your name does not appear, be kind enough to notify the Secretary, so that he may make the correction.

BEDFORD COUNTY

NAME	ADDRESS	COUNTY
Coble, T. J.	Shelbyville	Bedford
Dyer, J. H.	Wartrace	Bedford
Freeman, J. K.	Bell Buckle	Bedford
Freeman, W. G.	Shelbyville	Bedford
Haggard, D. C.	Unionville	Bedford
Horton, G. E.	Wartrace	Bedford
Moody, G. W.	Shelbyville	Bedford
Moody, S. S.	Shelbyville	Bedford
Morton, Jas. L.	Shelbyville	Bedford
Orr, W. M.	Shelbyville	Bedford
Patton, E. W.	Shelbyville	Bedford
Pyatt, W. S.	Normandy	Bedford
Ray, T. R.	Shelbyville	Bedford
Reagor, F. B.	Shelbyville	Bedford
Robinson, W. G.	Shelbyville, R. No. 3	Bedford
Sharp, W. T.	Shelbyville	Bedford
Shelton, R. E.	Flat Creek	Bedford
Taylor, J. P.	Haley	Bedford
Wood, T. H.	Bell Buckle	Bedford

CAMPBELL COUNTY.

Brown, G. B.	Elk Valley	Campbell
Delap, W. D.	LaFollette	Campbell
Gallagher, R. L.	Careyville	Campbell
Henderson, J. V.	LaFollette	Campbell
Hefferman, J. L.	Jellico	Campbell
Hawkins, John	Block	Campbell
Irish, W. R.	Jacksboro	Campbell
McClintock, F. A.	Newcomb	Campbell
Newman, A. T.	Jellico	Campbell
Queener, S. D.	Jacksboro	Campbell
Rose, J. L.	Jellico	Campbell
Robbins, H. M.	Jellico	Campbell
Scott, L. M.	Jellico	Campbell
Snyder, S. B.	Jellico	Campbell

CARROLL COUNTY

NAME	ADDRESS	COUNTY
Alexander, H. L.	McKenzie	Carroll
Bryant, G. C.	McLemoresville	Carroll
Carpenter, J. D.	Lavernia	Carroll
Cawthon, S. C.	Buena Vista	Carroll
Clark, A. H.	Lavernia	Carroll
Collier, H. T.	McKenzie	Carroll
Compton, W. G.	West Port	Carroll
Cox, J. B.	Huntingdon	Carroll
Dodds, B. C.	Huntingdon	Carroll
Duncan, L. L.	Hollow Rock	Carroll
Gray, J. N.	Huntingdon	Carroll
Huffman, W. F.	McKenzie	Carroll
McCall, J. H.	Huntingdon	Carroll
McCall, J. W.	Huntingdon	Carroll
McGill, H. D.	Yuma, R. F. D.	Carroll
Williams, J. F.	Yuma	Carroll
Wright, W. M.	Huntingdon	Carroll

HARDEMAN COUNTY

Black, A. E.	Toone	Hardeman
Curry, G. B.	Toone	Hardeman
Dorris, H. E.	Bolivar	Hardeman
Frost, C. L.	Middleton	Hardeman
Galloway, David	Saulsbury	Hardeman
Goddard, W. L.	Saulsbury	Hardeman
Milstead, H. M.	Bolivar	Hardeman
Neely, J. J.	Bolivar	Hardeman
Siler, W. H.	Toone	Hardeman
Stewart, Walter	Bolivar	Hardeman
Sassar, J. D.	Middleton	Hardeman
Sarsar, J. D., Sr.	Middleton	Hardeman
Tate, Robt. W.	Bolivar	Hardeman

HAYWOOD COUNTY

Allen, J. T.	Brownsville	Haywood
Cooper, T. W.	Brownsville	Haywood
Edwards, J. L.	Brownsville	Haywood
Miller, W. R.	Tibbs	Haywood
Norvelle, J. C.	Brownsville	Haywood
Patton, J. S.	Brownsville	Haywood
Sorrelle, A. H.	Brownsville	Haywood
Seiver, J. H.	Brownsville	Haywood
Warren, J. W.	Forked Deer	Haywood
Whitelaw, W. H.	Brownsville	Haywood
Wilkerson, J. B.	Blanton	Haywood

HENDERSON COUNTY

Arnold, J. M.	Lexington	Henderson
Bolen, C. E.	Wildersville	Henderson
Brandon, G. A.	Lexington	Henderson
Brasher, G. W.	Sugar Tree	Henderson
Brazelton, S. H.	Sardis	Henderson
England, J. H.	Luray	Henderson
Graves, John F.	Juno	Henderson
Huntsman, W. F.	Lexington	Henderson

NAME	ADDRESS	COUNTY
Hufstedler, A. G.	Parsons	Henderson
Johnson, C. H.	Lexington	Henderson
Keeton, J. T.	Sardis	Henderson
Keeton, W. B.	Scotts Hill	Henderson
McMillan, J. L.	Decaturville	Henderson
Parker, Sam'l. T.	Lexington	Henderson
Watson, W. T.	Lexington	Henderson
Whitaker, R. A.	Beacon	Henderson
Wyly, R. L.	Scotts Hill	Henderson

GILES COUNTY

Abernathy, C. A.	Pulaski	Giles
Abernathy, W. D.	Pulaski	Giles
Allen, A. M.	Buford Station	Giles
Aymett, R. E.	Pisgah	Giles
Baugh, John C.	Elkton	Giles
Baugh, W. P.	Elkton	Giles
Blackburn, Jas. K.	Pulaski	Giles
Butler, Geo. D.	Pulaski	Giles
Cole, W. H.	Minor Hill	Giles
Copeland, W. F.	Campbellsville	Giles
Dean, Allen W.	Brick Church	Giles
Freeman, E. C.	Pulaski	Giles
Grimes, G. C.	Bodenham	Giles
Harris, John S.	Minor Hill	Giles
Herbert, Robt. N.	Aspen Hill	Giles
Lancaster, A. J.	Pulaski, R. F. D.	Giles
Lancaster, Geo. W.	Pulaski, R. F. D.	Giles
LaRue, Jas. A.	Pulaski	Giles
Lowry, Jas. B.	Lakeland, Fla.	Giles
May, J. P.	Aspen Hill	Giles
Mims, W. S.	Pulaski, R. F. D.	Giles
Neal, J. H.	Wales Station	Giles
Sumpter, E. R.	Pulaski	Giles
Waters, Guy S.	Stella	Giles
Whitfield, T. A.	Veto, Ala.	Giles
Woodard, B. H.	Elkton	Giles
Wright, C. R.	Pulaski	Giles

JACKSON COUNTY

Anderson, L. R.	Granville, R. No. 1	Jackson
Baugh, H. L.	Gainesboro	Jackson
Clark, F. B.	Haydenburg, R.F.D.	Jackson
Condit, J. T.	Defeated, R.F.D.	Jackson
Cronwell, F. O.	Gainesboro, R. No. 4	Jackson
Fowler, S. B.	Gainesboro	Jackson
Hix, J. B.	Gainesboro	Jackson
Loftis, H. P.	Gainesboro	Jackson
Mabry, E. W.	Gainesboro	Jackson
McCoin, N. M.	Gainesboro	Jackson
Quarles, J. D.	Whitleyville	Jackson
Raines, Jesse	Malesus	Jackson
Reeves, C. E.	Gainesboro	Jackson
Russell, W. B.	Jackson	Jackson

JEFFERSON COUNTY

Cline, B. E.	Straw Plains	Jefferson
Dukes, N. M.	Straw Plains	Jefferson
Huggins, J. I.	Dandridge	Jefferson
King, W. F.	Jefferson City	Jefferson
Lquire, D. G.	Tampico	Jefferson
McCartar,	Dandridge, R.F.D.	Jefferson

NAME	ADDRESS	COUNTY
McCartar, T. L.	New Market, R.F.D.	Jefferson
Roberts, W. E.	Talbots	Jefferson
Tadlock, W. L.	Talbotts	Jefferson
Tinsley, P. A.	Dandridge	Jefferson
Tittsworth, B. M.	Jefferson City	Jefferson
Walker, J. H.	White Pine	Jefferson

LAKE COUNTY

Alexander, W. S.	Ridgely	Lake
Alexander, J. D.	Tiptonville	Lake
Davis, G. C.	Tiptonville	Lake
Griffin, J. T.	Tiptonville	Lake
Griffin, R. W.	Tiptonville	Lake
Hellen, R. E.	Ridgely	Lake
Jones, J. A.	Wynnburn	Lake
Kelty, E. T.	Cronansville	Lake

LINCOLN COUNTY

Anderson, J. M.	Fayetteville	Lincoln
Blair, E. K.	Fayetteville	Lincoln
Brock, B. B.	Blanche	Lincoln
Bryant, J. D.	Fayetteville, R. No. 8	Lincoln
Cannon, W. F.	Fayetteville, R. No. 5	Lincoln
Cullum, J. M.	Fayetteville	Lincoln
Farrar, J. P.	Fayetteville	Lincoln
Fields, Leon	Alto	Lincoln
Forbes, E. C.	Howell	Lincoln
Gilliam, L. H.	Kelso	Lincoln
Goodrich, C. L.	Fayetteville	Lincoln
Graham, J. T.	Booneville	Lincoln
Howell, W. S.	Boonshill, R. No. 2	Lincoln
Holland, B. F.	Mulberry	Lincoln
Joplin, W. S.	Fayetteville	Lincoln
Laws, H. A.	Lynchburg	Lincoln
McRady, S. F.	Petersburg	Lincoln
McWilliams, J. M.	Fayetteville	Lincoln
Noblett, B. E.	Fayetteville	Lincoln
Patrick, T. A.	Fayetteville	Lincoln
Shelton, J. M.	Kelso	Lincoln
Sloan, J. E.	Boonshill	Lincoln
Summers, W. P.	Harms, R. No. 1	Lincoln
Wyatt, J. M.	Fayetteville	Lincoln
Yearwood, A. L.	Fayetteville	Lincoln

LOUDON COUNTY

Burditt, G. M.	Lenoir City	Loudon
Eblen, J. G.	Lenoir City	Loudon
Eblen, Will	Lenoir City	Loudon
Ellis, N. C.	Friendsville	Loudon
Foute, W. T.	Lenoir City	Loudon
Harrison, J. J., Jr.	Loudon, P.O. Bx. 135	Loudon
Hickman, T. J.	Lenoir City	Loudon
Leiper, J. T.	Lenoir City	Loudon
Padgett, W. D.	Lenoir City	Loudon

MACON COUNTY

Allen, M. H.	Lafayette	Macon
Carman, J. T.	Westmoreland	Macon
East, P.	Lafayette	Macon
Ford, D. M.	Meadorville	Macon
Freeman, J. V.	Lafayette	Macon
Howser, D. D.	Lafayette	Macon
Smith, H. C.	Lafayette	Macon
Tucker, W. W.	Lafayette	Macon

MADISON COUNTY

NAME	ADDRESS	COUNTY
Arnold, J. M.	Jackson	Madison
Barbee, J. T.	Jackson	Madison
Blackmon, J. A.	Jackson	Madison
Brown, H. H.	Jackson	Madison
Crook, J. A.	Jackson	Madison
Crook, J. L.	Jackson	Madison
Curry, J. H.	Tiptonville	Madison
Dancy, A. B.	Jackson	Madison
Duckworth, W. C.	Jackson	Madison
Greer, R. L.	Norwood	Madison
Gresham, J. W.	Jackson	Madison
Hamilton, F. B.	Jackson	Madison
Hawkins, Herman,	Jackson	Madison
Herron, J. T.	Jackson	Madison
Henderson, S. A.	Jackson	Madison
Hopper, J. D.	Jackson	Madison
Jones, Horace L.	Jackson	Madison
Jones, J. T.	Jackson	Madison
Love, J. B.	Denmark	Madison
Lockman, W. L.	Medon	Madison
Lusk, P. B.	Jackson	Madison
McClaren, J. W.	Jackson	Madison
McCoy, A. M.	Jackson	Madison
O'Connor, F. J.	Jackson	Madison
Rochelle, W. F.	Jackson	Madison
Saunders, W. G.	Jackson	Madison
Smythe, Kelly	Spring Creek	Madison
Troutt, J. M.	Jackson	Madison
Webb, L. L.	Carroll	Madison

OBION COUNTY

Blanton, M. A.	Union City	Obion
Bond, J. B.	Union City	Obion
Boaz, L. D.	Harris	Obion
Butler, H. T.	Union City	Obion
Callicutt, T. P.	Rives	Obion
Carlton, John D.	Union City	Obion
Chandler, S. E.	Elbridge	Obion
Collins, T. B.	Troy	Obion
Cunningham, J. P.	Elbridge	Obion
Darnell, J. F.	Obion	Obion
Havner, J. B.	Troy	Obion
Howard, J. A.	McConnell	Obion
Howard, W. A.	Union City	Obion
Jernigan, V. J.	Obion	Obion
Jordan, Ira H.	Obion	Obion
Loring, B. F.	Union City	Obion
Matlock, P. N.	Mason Hall	Obion
Paschal, J. B.	Fulton, Ky.	Obion
Pearce, D. M.	Union City	Obion
Prather, P. W.	Woodland Mills	Obion
Qualls, H. W.	Union City	Obion
Reed, W. A.	Union City	Obion
Roper, J. F.	Union City	Obion
Sharp, J. B.	Obion	Obion
Smith, M. L.	Pierce	Obion
Watson, F. W.	Union City	Obion
White, E. H.	Rives	Obion
Wright, J. L.	Elbridge	Obion

OVERTON COUNTY.

NAME	ADDRESS	COUNTY
Boles, J. B.	Lilly Dale	Overton
Breeding, W. M.	Livingston	Overton
Capps, J. D.	Livingston	Overton
Capps, M. B.	Livingston	Overton
Lansden, J. B.	Livingston	Overton
McDonald, J. T.	Monroe	Overton
Qualls, A. B., Sec.	Livingston	Overton
Smith, J. E., Pres.	Hilham	Overton

POLK COUNTY

Akin, E. M.	Copperhill	Polk
Barnes, J. J.	Copperhill	Polk
Copeland, W. J.	Oroce	Polk
Geisler, F. O.	Isabella	Polk
Gilliam, W. Y.	Copperhill	Polk
Hyder, R. L.	Isabella	Polk
Kinsey, F. M.	Ducktown	Polk
Kinsey, L. E.	Ducktown	Polk
Lewis, A. W.	Copperhill	Polk

RHEA COUNTY

Allen, W. P.	Dayton	Rhea
Donaldson, Sam.		Rhea
Gillespie, J. R.	Dayton	Rhea
Gross, A. W.	Dayton	Rhea
Hammock, J. W.	Graysville	Rhea
Johnson, G. E.	Dayton, R.F.D.	Rhea
McDonald, W. P.	Spring City	Rhea
Miller, R. C.	Evansville	Rhea
Thomison, J. T.	Dayton	Rhea
Thomison, W. F.	Dayton	Rhea
Watkins, R. K.	Spring City	Rhea

ROANE COUNTY

Clack, J. M.	Rockwood	Roane
Clack, W. S.	Rockwood	Roane
Givan, G. C. G.	Harriman	Roane
Goodwin, J. B.	Harriman	Roane
Hill, W. W.	Harriman	Roane
Phillips, E. S.	Rockwood	Roane
Roberts, John	Kingston	Roane
Sewell, J. A.	Rockwood	Roane
Waller, J. J.	Oliver Springs	Roane
Wilson, J. C.	Rockwood	Roane
Zirkle, G. P.	Kingston	Roane

RUTHERFORD COUNTY.

Campbell, V. S.	Murfreesboro	Rutherford
Cartwright, J. W.	Murfreesboro	Rutherford
Crosthwait, Geo. W.	Florence	Rutherford
Duggan, S. B.	Eagleville	Rutherford
Duggan, S. S.	Eagleville	Rutherford
Engles, W. F.	Smyrna	Rutherford
Grigg, S. C.	Murfreesboro	Rutherford
Harris, J. T.	Walter Hill	Rutherford
Huff, D. C.	Christiana	Rutherford
Jones, Enoch H.	Murfreesboro	Rutherford
Murfree, M. B.	Murfreesboro	Rutherford
Overall, Jas. C.	Lascassas	Rutherford

NAME	ADDRESS	COUNTY	NAME	ADDRESS	COUNTY
Pitts, Rufus	Murfreesboro	Rutherford	Sale, H. W.	Covington	Tipton
Read, R. W.	Murfreesboro	Rutherford	Wilson, J. F.	Burlison	Tipton
Rucker, Jas. J.	Murfreesboro	Rutherford	Witherington, A. S.	Mumford	Tipton
Sanders, R. E.	Walter Hill	Rutherford	Witherington, J. B.	Mumford	Tipton
Scott, J. A.	Murfreesboro	Rutherford	Yarborough, L. A.	Covington	Tipton
White, B. N.	Murfreesboro	Rutherford			
Youree, Wm. E.	Readyville	Rutherford			

SMITH COUNTY

Alexander, M. N.	Difficult	Smith
Beasley, J. J.	Pleasant Shade	Smith
Beasley, I. H.	Dixon Springs	Smith
Bridges, J. G.	New Middleton	Smith
Campbell, J. S.	Gordonsville	Smith
Chism, J. H.	Carthage	Smith
Donoho, C. H.	Carthage	Smith
High, B. J.	Elmwood	Smith
Hargis, F. C.	Chestnut Mound	Smith
Key, R. E.	Monoville	Smith
King, R. W.	Gordonsville	Smith
Robbins, C. D.	Gordonsville	Smith
Swope, Frank		Smith
Williams, R. B.	New Middleton	Smith

TIPTON COUNTY.

Blackwood, W. J.	Covington	Tipton
Blaydes, A. B.	Atoka	Tipton
Boswell, E. A.	Covington, R.F.D.	Tipton
Brown, Geo. B.	Atoka	Tipton
Crice, G. W.	Covington	Tipton
Dickson, B. V.	Covington	Tipton
Edwards, J. G.	Covington, R. F. D.	Tipton
Flemming, J. J.	Atoka	Tipton
Gassoway	Covington	Tipton
Gillespie, G. B.	Covington	Tipton
Hill, F. S.	Covington	Tipton
Hill, L., Jr.	Covington	Tipton
Hurt, Sebastian	Brighton	Tipton
Kelley, W. N.	Covington	Tipton
Lindsay, L. J.	Covington	Tipton
McBride, J. W.	Covington	Tipton
Posey, W. F.	Mumford	Tipton
Rice, John C.	Braden	Tipton
Roby, A. J.	Covington	Tipton

WARREN COUNTY

Burger, T. O.	McMinnville	Warren
Cantrell, O. C.	McMinnville	Warren
Copenhaver, H. V.	Rock Island	Warren
Hayes, Douglas	Tracy City	Warren
Lockhart, H. L.	Coalmont	Warren
Mooneyham, E. L.	Rock Island	Warren
Northcutt, E. E.	McMinnville	Warren
Ramsey, A. B.	McMinnville	Warren
Reynolds, Herman	Viola	Warren
Seitz, Albert	McMinnville	Warren
Trail, A. J.	McMinnville	Warren

WHITE COUNTY

Bradley, A. A.	Eastland	White
Baker, R. F.	Sparta	White
Breeding, W. J.	Ravenscroft	White
Brock, W. L.	Sparta	White
Cantrell, W. B.	Sparta	White
Gaines, S. E.	Sparta	White
Gott, J. R.	Clifty	White
Gist, D. R.	Sparta	White
Johnson, W. M.	Bon Air	White
Lewis, P. K.	Doyle	White
Richards, A. F.	Sparta	White
Smith, R. E. L.	Doyle	White
Young, W. B.	Clifty	White

WILSON COUNTY

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Bratten, T. O.	Lebanon	Wilson
Edgerton, H. K.	Lebanon	Wilson
Eskew, A. O.	Lebanon	Wilson
Lillard, R. Q.	Lebanon	Wilson
McFarland, J. J.	Lebanon, R. No. 4	Wilson
McFarland, S. M.	Lebanon	Wilson
Oldham, D. P.	Mt. Juliet	Wilson
Rhea, B. S.	Lebanon	Wilson
Tilley, L. L.	Lebanon, R. No. 1	Wilson
Weaver, J. M.	Mt. Juliet, R. No. 5	Wilson
Young, C. V.	Lebanon	Wilson

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THE TRANSPLANTATION AND GRAFT- ING OF BONE.*

BY ROBT. CALDWELL, M. D.,

Nashville, Tenn.

Since we know that the fate of bone removed from the body is death, regardless of whether it is returned to the body or left permanently detached; the words transplantation and grafting, are used improperly and I feel should not be used, for both terms convey the idea that the portion of bone transplanted lives, which is absolutely untrue for it always dies. These terms are applied properly only in such instances as when one of the bones of the leg or forearm is moved over to the place of the other with all its soft tissues attached, or as in doing a Pirogoff osteoplastic amputation at the ankle. These words were first used when it was believed that the transferred bone continued to live and I suppose they will continue to be used just as the word rheumatism will remain with us for years to come. But, I trust in the further discussion of this subject you will at all times remember that the transferred bone always dies.

A short review of the history of bone surgery shows how much it has been neglected in the last quarter of a century. Sir William Macewen, of Glasgow, thirty-five years ago, demonstrated how bone regeneration could be established through the implantation of bone chips in the tissues where, previously, the shaft of the humerus had been removed by disease, leav-

ing a flabby arm which was of no service whatever. After this arm healed entirely, about a year and one-half later, Macewen opened the tissues and implanted these bone chips which were removed from the bone of another individual and had the gratification of seeing the regeneration of a bone which made the arm of very great service to the individual. With this demonstration, it is indeed strange that the profession has been so slow to perfect this most important branch of surgery. Contemplate the vast number of people living today without an arm or a leg, that should at least have a useful leg or arm, if not, a perfectly functioning one. The vast army, who shall, in the future, have their legs and arms restored, will owe a debt of gratitude to Dr. J. B. Murphy, who, by his genius, skill and untiring energy, has taught us so thoroughly and so much about this much neglected branch of surgery. I believe the one erroneous idea, namely, that the periosteum is the most important element in the regeneration of bone, when, indeed, it is of the least importance of any of the elements entering into the reformation of bone, has done more than all else to impede the progress of bone surgery. The periosteum may be a valuable adjunct but it can also obstruct the process of regeneration if it should happen to be interposed between the ends of bones or between the bone and a transferred piece of bone. Even our late text-books on surgery and applied anatomy teach that we do not have regeneration of the bones of the skull because the periosteum of the skull has no osteogenetic layer ascribing to the periosteum the whole source of bone regeneration. We, of course, now know that through the medium of transferred bone, we can secure the ossification

*Read before Knox County Medical Society, December 17, 1912.

of a defect in the skull without the presence of periosteum. The thing we formerly considered indispensable is now known to be unnecessary in bone regeneration.

While physiologists have classified bone as connective tissue, we have seemed to regard it from a pathological standpoint as being entirely different from connective tissue, when, in reality, it is nothing more than connective tissue into which has been deposited a certain amount of inorganic matter. The life and death of bone cells are governed by the same physiology as other connective tissue. I have contended on other occasions that bone is no easier to become infected than other connective tissue, but when infection does occur, the disaster is greater for the germs can protect themselves behind breast-works of lime salts which makes them more difficult to route and as we advance, they can retreat through the numerous openings to still other breast-works, making it almost impossible to eradicate the infection unless we can cut them off by flanking. We realize how impossible it is to remove infection from any tissue with a foreign body present to harbor the infection, this is what we have in infected bone, the organic portion of the bone is dead and the inorganic assumes the role of a foreign body. The tissues will harbor a sterile foreign substance for an indefinite time, but so soon as it becomes infected, it then becomes impossible to eradicate the infection without the removal of this foreign body, no matter whether it be dead bone, a ligature or some other foreign body. For the above-mentioned reasons it is more important that we have an absolutely sterile field in the plastic surgery of bones than in other plastic surgery. No one should attempt bone surgery unless he has the very best hospital facilities and also sufficient training and experience to enable him to maintain a perfect technic. A perfect technic in bone surgery has a different meaning from a perfect technic applied to other surgery. The only way that a perfect technic is maintained in bone surgery is by not allowing anything to enter the wound that has not been boiled, not even the gloved hand should be permitted because the liability of breaking the glove is too great when handling bones that have rough and jagged surfaces. The presence of infection always precludes any attempt at the

implantation of bone, even though it be ever so mild; under any and all circumstances every vestige of infection must be removed prior to any effort at bone surgery from the fixing of a fracture to the most extensive osteoplastic operation. We should not attempt the fixation, by any means, of a compound fracture until we are positive there is no infection present.

Owing to the disastrous effect of infection, it, too, has been a great barrier to bone surgery and no progress could be made before the era of asepsis. From the foregoing, the conclusion is at once reached, that absolute asepsis is the *sine qua non* to the regeneration of bone.

Many different materials have been used to assist in the regeneration of bone, but the thing to be remembered, is, that they all render assistance in exactly the same manner, regardless of whether we use bone from the same individual, a different individual, an animal, bone chips, calcined bone, decalcified bone, or bone ferules. They all are scaffolding over which the Haversian vessels may pass bearing osteoblasts for the formation of new bone, also osteoclasts for the removal of the scaffolding after the completion of the new bone. The material that seems to perform this function best, is bone from the patient—the Haversian vessels being more willing to trust themselves to scaffolding of this nature than to any of the others above enumerated. The bone from a different individual being the next best, while bone from another animal, is usually unsatisfactory. Bone chips, bone ferules, decalcified bone, ivory, etc., have been used with varying degrees of success by different operators. No transplant of bone should have its ends covered with cartilage or other tissues or have interposed between it and the bone anything whatsoever, for these will act as barriers to the Haversian vessels.

Primarily, the new bone regenerated, is the size of the transferred piece, but nature forms around this a new periosteum, which increases its size to equal that of the old bone or until its size is sufficient for the demands made upon it, thus if we should have a bone regenerated the size of a transferred piece and for fear of doing it harm the leg or arm is not used, the bone would never increase to the normal size. The thing that is absolutely necessary to the regeneration of bone, is that the transferred

piece comes in direct contact with living bone at least at one end, preferably at both ends, although, it is just as sure to regenerate with contact at one. However, it requires more time for the Haversian vessels to traverse the entire transplant if they pass only from one end, while if both ends are in contact with living bone, the vessels can meet in the center. With the old erroneous idea, still in our minds, that so much virtue resides in the periosteum, we have been endeavoring to take with the transferred bone periosteum which we now know is of no value as we do not expect the transplant to live; the only possible value this periosteum could have, is that a few of the cells might live and serve as a nucleus for the formation of the new periosteum. Dr. Murphy has this to say about the transference of periosteum: "In the young it seems to have some value; in the adult life it is neutral while in the old, it is detrimental;" but he does not attempt an explanation of why it is of value to the young and worse than valueless to the old. It may be that after further observation it will be determined that the periosteum is valueless at all ages. I now feel that the periosteum is of more value left *in situ* than it is when taken with the transplant. As above-stated, the transplanted bone fragment must contact with living bone and if fibrous tissue of any character intervenes, it will defeat our ends for the Haversian vessels will not penetrate tissue of any kind, the contact must be bone to bone. The contact must be permanent and the more perfectly it is fixed in this contact, the earlier we may expect results. If the transplant is continually changing its relation to the living stump, this will necessarily destroy the new Haversian vessels that are extending on to the transplant; thus, if the transferred bone is at once permanently fixed, the first vessels to pass over are allowed to continue to grow farther and farther up or down the transplant, while, if, every few days, the relations of the transplant to the stump are changed in any way, these delicate vessels are torn into, which allows the distal part of the vessels to die, making it necessary for the whole process to be begun again, and if this is repeated a number of times, it can be readily seen how much the regeneration can be delayed or even defeated.

To secure this fixation it is not only necessary to fix the opposed ends by means of nail, screw, or an ivory peg, but the entire limb should be securely splinted until nature has made her own splint of callus, just as in the union of fractures, the permanent callus is ever formed until a sufficient amount of provisional and temporary callus is thrown out to firmly fix the fragments, then the Haversian vessels can pass from one fragment to the other and form the permanent callus. The more perfect the fixation in the fracture, the earlier will we have firm union barring interference from other sources. For the same reasons perfect fixation in the transplantation of bones greatly facilitates the regeneration of bone. The transplantation of bone by placing the transplant within the medullary canal of the stump, seems to be the best means of securing contact and fixation. Here, to secure perfect contact with the bony surfaces, it is necessary that the medullary canal of the stump, to which the transferred piece is to be attached, be reamed out, thus removing the endosteum which would be a barrier to the blood vessels, as well as increasing the size of the canal, thus permitting the placing of a larger transplant than otherwise. The fragment to be transplanted should be of sufficient size to fit firmly into the reamed-out medullary canal, thus, the size of the transplant will depend upon the bone which we are endeavoring to regenerate, the femur permitting a larger transplant than the ulna.

Nowhere is the wonderful recuperative efforts of nature more perfectly demonstrated than in her ability to regenerate a new bone, surround it with periosteum, attach to it tuberosities, trochanters, head and develop it to the required dimensions, if we, as surgeons, will only supply a small amount of tressle work upon which nature's workman can pass.

The fields to which we may apply the above principles of the transplantation and grafting of bone, are very extensive, limited only by the ingenuity and mechanical skill of the surgeon.

The crest of the tibia is the most convenient place from which to secure the transplant because it lies superficial and owing to its shape, can be removed with the least amount of trauma and a piece of the required length and size can be secured from this source. In young individuals, when the bones have not attained their

length, if an epiphysis is destroyed, there will be shortening of the member unless it may be possible, to transplant an epiphysis to replace the one destroyed, this has not yet been tried but I think it can possibly be done. Macewen's case, thirty years ago, was not as good a result as it would have been, had not one of the epiphyses been destroyed, which prevented the further growth of bone in length keeping pace with the bone of the opposite side. In his case there was three inches difference in the length of the humeri, largely accounted for by the absence of the epiphysis.

The use of the fresh bone transplant in the open treatment of fractures seems destined to remove a very serious objection to the open treatment. In the minds of many, the presence of a foreign body being left in the tissues, has almost precluded their considering the open treatment of fracture, but with the intra-medullary bone split which is not only absorbed but seems to assist in union, this objection is overcome, while with the metal plates, they have seemed to have been a hindrance in some instances at least. Dr. Murphy reports no failures of union in fracture treated with the intra-medullary bone split, even in cases where the metal plate had been used with non-union resulting. If further observation of the bone splint confirms this belief, it will certainly put the open treatment of fractures upon a still firmer basis.

In the surgery of bones we must not only look to the local pathology but also the general, because upon this, many times, our success or failure will depend.

THE PRESENT STATUS OF CANCER.*

BY BENJ. B. CATES, M. D.,

Knoxville, Tenn.

As the official representative of our order I come before you bearing messages of good will and to remind you that we have assembled together for the purpose of mutual benefit, the advancement of our profession, and the welfare of humanity.

*Read before the Knoxville Surgical and Gynaecological Society, February 6, 1913.

I would be unworthy of your confidence if I failed to express to you my deep appreciation of the honor you have this day conferred upon me.

With your assistance I shall try to the utmost of my ability to carry out your mandate, to disseminate that feeling of fellowship and personal interest so vital to our well-doing.

The success of any movement is based upon the reason for which it was undertaken and the enthusiasm of its advocates.

Our cause is ages-old in interest and human-wide in scope. That the motive which calls us together has unbounded enthusiasm may be attested by the thousands of experimenters and laboratory investigators who are working night and day to discover ways of preventing sickness and curing disease.

There can be no question that the painstaking efforts of these investigators have in many instances succeeded beyond their expectations. And by these same tokens we stand before a critical world and assume (in absence of actual proof) that analogy and circumstantial evidence point to a future pregnant with bright prospects.

It is to assist in every way we can the efforts of our confreres the world over that we have organized the Knoxville Surgical and Gynaecological Society. How we may best do this will evolve as time goes on. That the accumulated experience of the members of this society is rich in information of deep interest to humanity goes without saying! We have only to keep records of our cases, register our observations and publish our results so others may profit by our experience.

It is mandatory in our association for the presiding officer, when he assumes the duties for which he was elected, to deliver an oration upon a subject concerning the welfare of the society in general, or along some line in which he is making original investigation.

While I have nothing original to offer for your deliberations, I have, however, some facts gathered from a large mass of statistics, to present for your consideration upon a question of deep interest, not only to us as surgeons, but of much importance to the entire human race.

I was induced to select this topic, not only because of cancer's rapid increase and its enor-

mous mortality, but mainly by reason of the ignorance of the truth in the case and the indifference with which many patients regard themselves when told of the possibilities of procrastination. I refer to the condition known as CANCER.

When I decided upon cancer as the title of my paper, I revolved in my mind the best possible way to present the question so as to awaken the conscience of the laity to a realization of the peril that confronts the human race. It makes one sad to see a patient with symptoms of latent cancer turn a deaf ear to all entreaties when one knows that time will vindicate one's opinion. No doubt my experience is that of every member of this society.

Now I have lost faith in generalities as a means of conviction in potential cancer cases and have decided to present for your consideration the cold facts of statistics and comparison, for they loom dark and threatening with truths of evil omen to all of us.

With your kind indulgence I shall attempt to show conclusively good and cogent reasons for sounding alarms, by massing figures as compactly as compatible with the main argument in my discourse.

These figures are not my own but are taken from most excellent papers on cancer by Drs. Jno. A. McGlinn, of Philadelphia; William B. Coley, of New York City, and G. W. Crile, of Cleveland, Ohio, who quote freely from "The American Experience Mortality Tables," and "The Register General's Report in England." So any deductions made from these figures are relatively reliable.

It should also be known that the American figures are not inclusive of the entire United States but represent only what is known as the Registration Area—generally from the largest cities—which population compiled from the 12th Census U. S. 1900, Vol. 3, Part 1, consists of 28,807,269 souls. Consequently any ratio of mortality to population in these reports may be accepted as fairly accurate and no doubt are far too conservative because it is well known that for ethical reasons many deaths from cancer are certified to other causes.

Anyhow, considered in its various phases from a study of the above-named tables, we are confronted with a knowledge of the enormous in-

crease of cancer which exacts its toll of human life to an alarming degree.

Whatever data is offered in the American reports is founded in large measure on calculations made between 1890 and 1900. Now, by comparing the mortality tables from all diseases in 1890 which showed a death rate of 19.6 per 1,000 population, with 1900 which showed a mortality of 17.8 per 1,000 population, it is seen to be an actual decrease of 1.8.

But by a further study of a long list of tables it is shown that this decrease is in early and young adult life, or better, precancerous life, which some writers ascribe to better sanitary and hygienic conditions that obtain, as we better understand acute infectious disease, while the same tables show an increased mortality in late middle life and in old age. Now it is our purpose to show the chief cause of this increase.

Again, in spite of a general mortality decrease of 1.8 per 1,000 in the 12th decade of the U. S., it has been shown that cancer has increased 12 per 100,000 population in the same time.

In the United States the mortality from cancer and tumor increased from 9 per 100,000 population in 1850 to 29 in 1880; to 33 in 1890; to 43 in 1900. The proportion of deaths from this cause to 1,000 deaths from all causes increased from 25.3 in 1890 to 32.9 in 1900. In the Registration Area the death rate from cancer alone increased from 53 in 1890 to 70.8 in 1906. *

Roger Williams in "Natural History of Cancer," estimates the average annual increase of cancer from 3 per cent to 5 per cent. Under ordinary circumstances the abstract increase of 3 per cent to 5 per cent per year of cancer may convey no special significance to the mind; but when measured by the increase per cent of population, it is quite comprehensible. In other words the official report of the U. S. Census for the last two decades shows an increase of 21 per cent in population for each decade or a yearly average of 2.1 per cent, a balance in favor of cancer varying from 0.9 per cent to 2.9 per cent.

In order to drive home the argument more forcibly, I will call your attention to an oration on Cancer delivered before the American Medical Association in 1908 by Dr. Geo. W. Crile, of Cleveland, Ohio. Dr. Crile estimated that there were in 1908, 80,000 cases of cancer in

the United States. Taking it for granted, then Roger Williams 3 to 5 per cent yearly increase is correct. There must be at this time a hundred thousand human beings in the United States perishing of cancer. These figures are shocking and fills one with horror.

This increase is widespread among all civilized people of the world and embraces all climes, all races, and all ages, from less than a year to ninety-five years of age and all conditions of society, from the highest to the lowest. Indeed, according to Coley, in some countries such as certain sections of Ireland, it is more prevalent among the higher circles of society than the lower. Cancer is rare among the Australian aborigines, the natives of Ceylon and Java, and is unknown among the Pacific Islanders.

McGlinn says in the present increase rate of cancer mortality keeps up, by the year 1931, the deaths from cancer will equal the deaths from consumption and cancer will become the "great scourge of the world." That this increase is not supposititious is evidenced in reports which show in certain sections of the United States, that cancer kills more people than consumption.

Let us now compare these estimates with statistics on cancer mortality for other countries and for the sake of brevity, select England because the same relative increase is noted in other countries! The population of England and Wales barely doubled between 1850* and 1905, yet the cancer mortality increased six-fold.

In order to be more comprehensive we will quote from the Register General's Report in England, to wit: In 1906 out of a total of 141,241 deaths of males over 35 years of age, 12,695 died of cancer; and out of a total of 140,607 deaths of females, over 35 years of age, 17,671 died of cancer, showing one man in eleven over 35 years of age will die of cancer and one woman in eight over 35 years of age will die of cancer.

In England the cancer death rate for 1905 was for each 100,000 population, 75.6 for males and 100.5 for females. The corresponding phthisis rates being for males 134.7 and for females 95.7. In England more women die of cancer than die of pulmonary tuberculosis.

Now compare these figures in England with

statistics from the Registration Area of the United States.

In 1900 the population for the registration area of the United States for males and females over 35 years of age was: males 4,933,424; females 4,767,304, and in that year 281,909 men and 518,185 women died of cancer. In 1900 nearly twice as many women as men past 35 years of age died of cancer.

In 1906 out of a total death rate for males of all ages, of 358,286 there were 11,166 deaths from cancer and out of a total of 299,819 for females of all ages, 17,854 died of cancer. Thus of all ages one male out of 32 dies of cancer and one female out of 11.2 dies of cancer. The same phthisis rates being one out of 9.9 for males and one out of 10.2 for females. Almost as many women die of cancer as pulmonary tuberculosis.

Notice the mortality figures for the same area for the same year during the cancerous age. Out of a total mortality of 186,944 for males over 35 years of age, 10,644 died of cancer and out of a mortality of 156,465 females beyond 35 years of age, 16,897 died of cancer. In round numbers this means one man in 17.5 over 35 will die of cancer and one woman in 9.2 over 35 years of age will die of cancer. The corresponding phthisis rates, for this age period being for males 1 in 19.9 and females 1 in 14.1. Bluntly speaking more women past the age of 35 die of cancer than of pulmonary consumption.

Let us compare the mortality of cancer with other mortality from other surgical conditions. "Cancer has the highest death rate of any one other surgical condition." Broadly the statistics of 1906 show the combined death rate of all surgical conditions reported slightly more than twice as great as cancer which is to say, deaths from blood poison, carbuncle, rabies, bone disease, abscess, goiters, gangrene of lungs, gallstones, appendicitis, peritonitis, female diseases, accidents of pregnancy, fractures and dislocations, amputations, burns, scalds, gunshot wounds, accidents in mines, from machinery, railways, street cars, vehicles, automobiles, horses and wagons and other injuries, represent a total mortality rate of 161.5 while the death rate from cancer for 1906 was 70.8.

While the foregoing figures have had to do with the study of cancer mortality as compared with mortality from tuberculosis and surgical conditions, it is interesting to note the relative mortality of cancer as compared with acute infectious diseases to arrive at a fair estimate of the enormous waste of life by cancer from another standpoint.

Cancer kills one and one-half times as many men as typhoid fever and five times as many women as typhoid fever. Finally the combined death rate of typhoid fever, malarial fever, smallpox, scarlet fever, diphtheria, plague and yellow fever is only 6.4 times greater than cancer.

From these considerations then, it is plain the evidence pointing to an enormously increasing growth of cancer throughout the civilized world is overwhelming, and how to meet this growing menace, so inexorable in its destiny, so ruthless and so loathsome in every detail, is one of the great questions now confronting the medical world.

Again, it may interest the public to know that physicians themselves are alarmed at the rapid increase of cancer and have determined upon a world-wide war against its ravages, because they know how fatal it is and how helpless a physician often is when a patient applies to him for relief from cancer.

It is to merit your approval and to solicit your hearty co-operation that the medical world has decided to take the public into its councils and give free public lectures upon the history of cancer, so people by education may know its tendency and seek medical advice when it is worth while.

There is no further argument as to how to deal with appendicitis; that is established on such a scientific and rational basis and the public has learned its history and nature so well as to accept its treatment without cavil.

So we hope by agitation the people may learn just as thoroughly the lesson of cancer. The public is entitled to know all there is about cancer and it is our duty as physicians to enlighten them on the subject and it is for that very reason we have invited you to be our guests to-night.

From the vast accumulated knowledge of all the centuries down to this good day no specific

for cancer is known to the art of medicine, hence the remedy is preventive and lies in a propaganda teaching the history and nature of cancer, since the cause is academic.

How best to diffuse this knowledge so as to put every human being on his guard is the question near the heart of every physician.

If the opinion of your president is worthy of consideration—he would advise that physicians in every community organize publicity committees; because physicians are oftentimes the first to see these conditions, as patients naturally consult the family doctor first in all their ailments, albeit, some conceal evidences of this disease for months and months from their nearest and dearest friends, till forbearance ceases to be a virtue and they are forced to make a clean breast of the actual state of affairs when it is too late. Clearly their reticence has robbed them of their only chance of life.

Again, let this publicity committee have competent men appointed to write monographs, give public lectures on the nature and tendency of cancer in the schools, from the pulpit, and even disseminate this knowledge in ordinary conversation with acquaintances.

Let it be taught that cancer has a precancerous history which means it always gives warning to its host; that is to say, any sore that failed to heal under ordinary remedies, after a reasonable lapse of time should excite one's suspicion; that any woman who has borne children should have herself examined and any tears or lacerations in her uterus should be repaired at once, since cancer in this organ most commonly starts in these tears.

Make it known that cancer of the stomach always develops on an ulcer, which gives a long history of dyspepsia. Plainly speaking dyspepsia is but a euphonious name for ulcer. That diarrhea alternating with constipation in middle life frequently means incipient cancer; that a tumor in cancer bearing organs—such as the breasts—in women past thirty years of age is almost invariably cancer.

It should be insisted that attention to these warnings with proper treatment will surely prevent cancer, that to neglect these warnings will allow conditions to develop which will inevitably seal one's doom.

If we as physicians do all in our power to spread a knowledge of cancer, to enlighten our patients upon the dangers of neglecting themselves and show them the way to prevent this disease, we have done our full duty to ourselves and to the public. Can any one do more for his fellow man?

PLEURISY.*

BY J. C. OVERALL, M. D.,

Lascassas, Tenn.

Definition: Pleurisy is an acute inflammation of the serous investment of the lungs or of its reflection on the diaphragm.

Causes: Pleurisy may be caused by simple chilling of the body during exposure to cold, and tuberculosis. In addition to tuberculosis as a primary cause of pleurisy I might mention rheumatism and chronic Bright's disease, as predisposing causes, at least. It should be said, also, of the latter that a certain proportion of them have been relegated to tubercular pleurisy. Then pleurisy may appear as a complication of various diseases. First of importance are tuberculosis, in which it is said to be present in from 65 to 80 per cent of cases, lobar pneumonia, pericarditis, la grippe, and the acute infectious diseases generally, as well as gout, chronic diseases of the liver and gall bladder, and cancer. Traumatism of the chest with or without perforation may also cause it.

SYMPTOMS AND DIAGNOSIS.

To give a complete differential diagnosis would make this paper too long, and the main points of this paper that I wish to bring to your notice would be lost in the volume of reading matter. The most important diseases will receive attention, while the others will merely receive mention. The initial symptom of pleurisy is usually pain, at first in the side. Occasionally, cases of diffuse pleurisy and pneumonia of the lower lobe occur, in which the tenderness is limited to the abdomen just below the costal

border. This may lead to errors in diagnosis. In such cases upward pressure in the flank, hypogastrium, and (in right-sided cases) even the ileocaecal region, will cause pain. The sensitiveness which accompanies acute right-sided pneumonia and pleurisy is occasionally localized in the ileocaecal region.

This is especially frequent in children and may lead to a false diagnosis of appendicitis. This peculiar distribution of pain is probably due to involvement of the diaphragmatic pleura. The diaphragm forms a sort of bridge across which the thoracic pain enters the abdominal region. Even the subjective pain in pleurisy may in a good many cases be localized along the costal border. One of the favorite seats of pain in left-sided pleurisy is the region of the heart apex. This may be due to the fact that during systole the apex of the heart, by friction, increases the inflammation, and therefore in spite of the diffuse nature of pleurisy, may give rise to circumscribed pain.

Acute pleurisy is resolvable clinically into three stages: a dry stage, a stage of effusion, and a stage of resolution, or absorption. Retro-sternal location of pain is rare. It does occur, however, and is usually associated with inflammation of the mediastinal pleura.

In such cases, however, it would be necessary to think of pericarditis. Quality of pain is rarely characteristic, and it is very difficult to differentiate it from that of intercostal neuralgia or myalgia.

The pain occurring in the interscapular space in pulmonary tuberculosis, may also occur in diffuse pleurisy.

As a general rule we must say that the pain is of a sharp and stabbing character. The factors most markedly influencing the pleural pain are:

1. Pressure.—There are cases of pleurisy in which even a light touching of the skin of the thorax with the bare hand, or with the bedcover, may give rise to the most intense pain. On the other hand, there may be all transition from the extreme condition of sensitiveness to an absolute lack of pain. The factor determining this of course, is the degree of acuteness and severity of the inflammatory process. During the first or dry stage, the patient usually lies on the affected side. Palpation may recognize a fremitus

*Read before the Rutherford County Medical Society March 5, 1913.

corresponding to the friction of the two pleural surfaces. Percussion in this stage is negative, except that it may cause pain, but auscultation recognizes the friction sound in the first stage of pleurisy to the crepitant rale in first stage of pneumonia is well recognized. The usual distinctive features are their superficial situation and the intermittent character of the friction sound, its presence during expiration as well as inspiration, and if confined to one of these acts, rather to expiration, while the crepitant rale is heard only during inspiration. The friction is also usually rougher and more circumscribed, and may sometimes be heard better with the stethoscope. The second stage of pleurisy presents the resemblance in the physical signs to same stage in pneumonia. Above all, in pleurisy with effusion there are diminished vocal fremitus and diminished vocal resonance; in pneumonia, increased vocal fremitus and increased vocal resonance. There is commonly, further, in pleurisy with effusion, a change of level of dullness with a change of the position of the patient, which is not the case in pneumonia. This third stage or stage of absorption: Absorption of the effused material is the natural sequence in most cases. Unabsorbed portions undergo organization, producing adhesions, which, in extreme cases may obliterate the entire pleural cavity. Sacculation of the effusion by adhesion is not uncommon, especially in purulent exudations in which the adhesions form an abscess wall. Varying degrees of adhesion of the opposing pleural surfaces are encountered, depending on the character of the exudate. Chronic pleuritis results when the fluid is not absorbed or when it is effused into the cavity slowly. Referring to the usual initial symptom; namely, pain, I will add that the area of sensitiveness to pressure is usually much more diffuse than the area of subjective pain. In every individual case it is important to observe the zone of sensitiveness and observe its increase or decrease during the course of the disease. In pleuro-pulmonary disease the pain which occurs in the abdomen is hardly ever spontaneous and is discovered only by examination. The diaphragm as mentioned above, is usually the means of transmission of such pain to the abdomen. In right-sided lesions it is always necessary to consider the possibility of secondary liver pain due to perihepatitis or

hepatic congestion. Sensitiveness to pressure is limited chiefly to the axillary and anterior aspects of the thorax, and favors the lower intercostal spaces. This is true at any rate of cases of acute pleurisy. In apical tuberculosis when the pleural adhesions develop, the sensitiveness to pressure is usually localized in the subclavicular or subspinous fossa, and in the upper anterior intercostal spaces.

The same is true of cavity formations in apical tuberculosis. These pains are of especial importance for early diagnosis, since they may appear when subjective pains are still absent. The pain may be definitely ascribed to a pleural lesion whenever sensitiveness to pressure and crepitant rales are found in one and the same spot. It is occasionally difficult to exclude intercostal neuralgia.

2. Factor influencing pain.—Position and motion.—Lying on the diseased side causes pain by direct pressure. When the patient lies on the healthy side, however, different conditions prevail. In this position he frequently suffers great distress, which gives him the impression that the pain is drawing over into the healthy side. Such sensations are chiefly present in cases of pleural exudate, more rarely with cavities, and must be ascribed to a shifting of the organs in the mediastinum. In some rare cases lying upon the abdomen relieves the pain. The pain is increased when in an upright position and head bent forward, also when stooping.

3. Factor influencing pleural pain.—Inspiration and Expiration. Coughing and sneezing come under this heading. The patient takes the shortest breaths possible, and the breathing is made up of short, hurried gasps. Cough likewise causes pain, and is accordingly restrained. The cough is peculiar enough to require especial mention. It is short, attended with little expectoration, and is a much less conspicuous feature than in pneumonia. The characteristic shortness is due to the pain caused by the act of coughing, on account of which it is cut short. Whenever a chill or any febrile movement is followed by a sharp pain in the axillary regions, the diagnosis of pleural pain is obvious, and the first suspicions are, of course, of pneumonia or pleurisy.

The interpretation of thoracic pain is far more difficult in chronic conditions which run their

course without fever. In such cases I have always found it difficult to decide whether the pains have a pleural origin (such as the chronic pleural adhesions so often found in tuberculous individuals) or whether I was dealing with an absolutely independent neuralgia or myalgia. On the one hand there may be absolutely no physical signs in chronic adhesive pleurisies; on the other, the pain in intercostal neuralgia, by limiting the respiratory movements, may lead to secondary atelectasis with crepitant rales. It is very important therefore, to determine whether the lower border of the lung moves properly with respiration. Examination with the X-Ray has been advised in these cases. As stated above, a careful differential diagnosis in all these cases is almost impossible, but there are a number of points I wish to present, which may be of great help.

1. One-sided objective or subjective pain, localized in the axilla, points with great probability to a pleural origin.

2. The same is true of one-sided pain limited to the apex of the lung, especially when this is accompanied by anemia, emaciation and neurasthenia, even when the physical examination of the lung is negative.

3. Careful investigation of the previous history must be made as regards overexertion of the muscles of the arms or chest, and exposure to draughts. Inquiry must be made as to the rheumatic or neuralgic tendencies, and symptoms of these diseases in other parts of the body must be looked for. These, when present, point toward neuralgic or myalgic origin of pain.

4. When lying on the diseased side causes coughing, it is obvious that the pain emanates from the pleura. In cases in which there is unquestionably a lesion of the lungs and of the pleura, the exact nature of lesion can be determined only by a careful analysis of the pain.

The very absence of the pain in such cases is of great diagnostic significance. Thus, whenever, large areas of dullness occur entirely without subjective or objective pains, although, it is not possible to exclude inflammatory pleurisy, nevertheless it is advisable to think of neoplasms, dermoid cysts, and pulmonary abscesses, processes which are not necessarily accompanied by severe inflammations along the pleura and may therefore develop with little or no pain.

TREATMENT.

Valuable indications for treatment are derived from our knowledge of the cause and pathology of the disease, from the symptoms and clinical cause, and from those facts in the social and family life and the previous medical history which bear upon the progress of the disease. Knowledge, then, that the disease is an infection affords a basis of action that is more clear. Inasmuch as from 65 to 80 per cent of all cases are discovered to be tuberculous, again it comes plainly to one that in the larger number of cases of pleuritis the treatment must be that of the treatment of a manifestation of tuberculosis. As the disease is often secondary, contributing lesions in the other part of the body should be unearthed and reckoned with in the treatment of the infection. Thus antecedent or associated bronchitis, tuberculosis, pneumonia, streptococcic and staphylococcic infection in any part of the organism, typhoid fever, gonorrhea, and syphilis, may each be regarded as a casual factor while instituting treatment.

The first therapeutic indication in the treatment of the acute fibrinous form, is the relief of pain, since it is this symptom which drives the patient to the physician. Sometimes marked relief can be obtained by fixing the side with adhesive plaster. Rest in bed, in addition to rest of the inflamed part, is of great benefit, and fixation of the side by means of a bandage is to be preferred because of the easy removal for purposes of examination. Sometimes the pain persists in spite of fixation of the chest, and in these cases a hot-water bottle or an ice-bag may be used to advantage, as also poultices of linseed or mustard, or a turpentine fomentation. In extreme cases hypodermatic injections of morphine must be given. Also the state of the functions of digestion, elimination, and circulation must be observed. When required they should receive proper attention.

Remembering that pleurisy is often a manifestation of disease in some other part of the body, the recognition of the source of the infection should be the aim of the physician. If part of a tuberculous condition, treatment should not cease with the amelioration of symptoms, but when the first discomfort is over, and even during convalescence, hygienic treatment should be begun.

Should the pleuritic involvement be but an expression of a rheumatic affection, great benefit is to be expected from the use of salicylates, aspirin, salophen, sodium salicylate, etc.

Dr. John H. Musser, in his treatment of diseases, recommends large doses of the salicylates, frequently repeated until constitutional effect is reached, then decreasing, giving 25 gr. of sodium salicylate every 3 hours until buzzing and ringing in the ears were complained of. It was quite striking—the complete absence of any gastric symptoms under this regime.

Absorption of the fluid in serofibrinous cases does in the majority of cases perhaps, occur, and when not causing pressure symptoms, nature may be assisted to a certain extent. The method of dry diet may be tried, and the saline method may be employed.

The details of the so-called Hay treatment are given by Osler as follows: "If there is no fever, a meat diet, with an egg and dry bread and 8 to 10 ounces of liquid in the form milk of water, should be given. Every morning, if the patient is robust, otherwise every second morning, from half an ounce to an ounce of Epsom salts is given an hour before breakfast, in as concentrated a form as possible." Remembering that the fluid may be regarded, on the one hand, as a safeguard against further advance of the infection, and, on the other, as a menace against the health of the individual, it is not to be wondered at that physicians have arrayed themselves on either side of the question, the one advocating postponement of aspiration, and the other favoring removal of the fluid.

AUTOSEROTHERAPY.

Autoserotherapy has in recent years commanded some attention. This method of treatment, first suggested by Gilbert in 1907, consists in reinjecting under the skin 2 c. c. of fluid aspirated from the pleura. The fluid is withdrawn by means of a horse hypodermic syringe, and then, without removing the needle, injection of the fluid is made under the skin through the original puncture wound. But one injection usually suffices, although should the effusion show no signs of diminution, it may be repeated. In tuberculous pleuritis a slight rise of temperature has followed. The general

belief is that the fluid is beneficial on account of the antibodies it contains.

When, despite all we can do from a medicinal standpoint, the fluid mounts up, and the chest becomes one or two-thirds full, other measures must be resorted to, as spontaneous absorption is out of the question. Most physicians are agreed that when the effusion becomes so large that pressure symptoms are apparent, such as dyspnea, cyanosis, or impaired cardiac function, or where there is displacement of the organs, or when the effusion shows no sign of absorption after a week or ten days of medicinal treatment, then the question of mechanical removal of the fluid should be considered (thoracentesis).

I am speaking here of the cases of clear fluid, since these are the only ones which should be treated by thoracentesis.

I have had no experience with any except the clear fluids, but I find in the culling of recent literature of our best writers, that when the fluid becomes turbid, the chances are that thoracentesis alone will be ineffectual, since empyema may develop.

In these cases and in cases of true purulent pleuritis the assistance of a surgeon must be had, as a more radical procedure will have to be done.

RHEUMATISM.*

BY W. A. OUGHTERSON, M. D.,

Nashville, Tenn.

The subject of this paper is rheumatism, which has been defined as a constitutional disease marked by inflammation of the connective tissue structures of the body, especially the muscles and joints, attended with pain, aggravated by exposure, with a tendency to recur.

With a casual examination of many cases coming for the relief of painful joints and extremities it is an easy matter to place the majority of them in this category. On the other hand a more careful investigation makes one feel that the term rheumatism should be stricken from medical nomenclature.

*Read before the Nashville Academy of Medicine, February 11, 1913.

Cabot, of Boston, makes the statement that rheumatism is an antiquated blanket for the cover of ignorance. If we attempt to place our cases of so-called rheumatism on a distinct pathological basis, I believe the majority of us must admit that Cabot's position is well taken. A disease without definite pathology in my opinion should be without clinical entity.

If we exclude such painful condition as arise during the course of *tabes dorsalis*, posterior ganglionitis (or *herpes zoster*), and other changes occurring in the sensory paths of the cord and their root connections less well understood, the many different neuralgias, chronic meningeal thickening especially those involving nerve structures given off from the cord, incorporating them in the inflammatory exudate, lesions of the brain are not apt to be confused, although slight hemorrhage into the optic thalamus is not infrequently mistaken for rheumatic pains in the hand or arm. Such orthopedic diseases as spinal deformities, spondylitis deformans, flat foot, sacro-iliac disease, and other partial dislocations, arthropathies such as those described by Charco and Morán, pulmonary hypertrophic osteo-arthropathy, painful heel, metatarsalgia, traumatic neuroses, inflammatory exudates incorporating nerve trunks following injury and sprains, not infrequently seen in laboring men following sprains about the shoulder joint, new growths pressing nerve trunks, thoracic aneurism (I venture there isn't a man present who has not seen a case of thoracic aneurism treated for a longer or shorter period for rheumatism), bony outgrowths, an excellent example of which is cervical rib, periosteal inflammations, lacerations of muscle fibers and ligaments, joint fringes, foreign bodies in a joint, traumatic synovitis, septic and tubercular osteomyelitis, malignant disease of the bone, cartilage, and periosteum, gout, hemophilic arthritis, intermittent hydrarthrosis, probably belonging to the same group of cases. Painful states of the nerves resulting from the various toxemias, as syphilis, diabetes, malaria, nephritis, chronic tuberculosis, lead, mercury, arsenic, and other trade metals, alcohol, tobacco (I might state here that the Vienna oculists make the unqualified statement that tobacco is capable of producing total optic atrophy). One other most frequent source of painful extremities is seen

in absorption from the intestinal tract; another class of cases come under the head of lumbago, torticollis, pleurodynia, cephalodynia. Still another group is myositis ossificans, suppurative myositis, dermato-myositis, and polymyositis hemorrhagica. And lastly the arthritides of an infectious nature. The type here referred to is that type resulting from a focal point of infection in the gums, tonsils, sinuses, septic bronchitis, bronchiectasis, bronchorrhea, chronic pulmonary abscess, gall bladder and appendix, intestinal stasis, genito-urinary tract, gonorrheal and non-gonorrheal, arthritis deformans, the etiology of which is still a mooted question, the majority of investigators, looking to the infectious theory, a few still clinging to the nervous origin of the disease. Gout a disease still claimed to be of metabolic origin, which Osler states goes begging for a diagnosis more often than any other to be so common.

If we exclude all of the above-mentioned conditions do we yet have another condition, or group of conditions that may belong to our ancient relic rheumatism? If so, then I am unable to give any description of it.

Inasmuch as the disease affecting the structures entering into the formation of a joint called acute articular rheumatism or rheumatic fever, is said to be due to the invasion of the tissues by an organism called the strepto, or diplococcus rheumaticus, then the term rheumatic arthritis is permissible, but, should be confined strictly to that one type of infection.

The commonest of the pyogenic bacteria producing arthritis, are streptococcus, staphylococcus, gonococcus, pneumococcus, Friedlander and Pfeiffer bacillus, and possibly other organisms in some instances. I refer here to the arthritis resulting from what we ordinarily term focal points of infection remote from the joints.

Because various micro-organisms have been found in the tissues and isolated from them in acute articular rheumatism, this does not constitute proof that they are the cause of the disease, or because various micrococci have produced arthritis, and endocarditis in animals, this is therefore no proof that they are the cause of acute articular rheumatism (or rheumatic arthritis). Many infections in man will cause arthritis and endocarditis, yet the condition need not be acute rheumatic fever. The cardinal

rules of investigation must be adhered to, before the etiology can be placed on a sound basis, that is to say the organism must be found with constancy in the important lesions of the disease, it must be isolated and cultured outside the body, it must produce similar lesions in susceptible animals, it must be again isolated from the lesions produced in the animal. No proof short of this suffices, and until this proof has been obtained for more than one micro-organism, the view that various attenuated micrococci are causes of acute rheumatic arthritis is not established.

Among the pioneers in this work may be mentioned, Mantle, Klebs, Lyden, Singer, Loeffler, Michels, and others. Apert in 1898 placed the position of the diplococcus upon a firmer basis by producing mitral disease in a rabbit from an injection of the micro-organisms obtained from the blood of a patient with rheumatic fever.

Westphall, Wasserman, and Malkoff in 1899, produced fever and multiple arthritis in eight rabbits with a similar organism obtained from a fatal case of rheumatic arthritis.

Pain and Pointon in 1900 published independently the result of investigations in which they isolated this diplococcus from eight successive cases of acute rheumatic arthritis and had shown its presence in the most important human lesions. They produced these various lesions in rabbits, and had isolated the diplococcus from the animals tissues. Since that date they have added thirty-five to their number with only occasional failures.

Vernon and Shaw in 1903 demonstrated that monkeys were susceptible to the infection with a culture obtained from the blood of a fatal case of rheumatic pericarditis immediately after death. Fritz, Myer, Ainley, Walker, Beatson, Beattie in Edinburg, and Longscope in America, have confirmed the above observations, and added much of a similar nature.

The results of experiments by different investigators are on the whole remarkably constant, and one cannot lose sight of the fact that micro-organisms which are present in the lesions of acute rheumatic arthritis are capable of reproducing similar lesions in a susceptible animal.

It is a deeply grounded belief with the public, and many members of the profession that

rheumatic arthritis is a family disease. Church concludes from his investigations that the evidence is imperfect. Osler's investigations showed 25 per cent of his cases gave a family history of rheumatism. Church holds that the not rare occurrence of the disease in several members in the same family is good ground for the argument that it is infectious, and should be classed as a house disease.

In 133 cases investigated by Langmead, 43 per cent showed evidence of infection of the tonsils, or pharyngeal mucosa. It is thought by many competent observers that the tonsils and pharyngeal mucosa are the points of inroad to the infection, micro-organisms isolated from the tonsils have produced arthritis, and endocarditis in animals, and many cases of apparent rheumatic fever, of the subacute, chronic, and recurrent types have been completely relieved by the removal of the tonsils.

There is much evidence against the theory that rheumatic arthritis is simply a mild pyogenic infection as is claimed by some. Some observers lay much stress on the fact that salicylates have no effect on the ordinary streptococcus arthritis or that due to other pyogenic bacteria. The clinical course in streptococcus arthritis is very different from that of rheumatic arthritis. According to Osler true rheumatic joints due to infection by the streptococcus rheumaticus never suppurate, and the isolation of streptococcus pyogenes may simply indicate the presence of secondary invasion such as may occur in small-pox.

On the other hand rheumatic arthritis runs an extremely variable course. Austin Flint made the claim that the disease is self-limited, and medicines have no influence on the course any more than pneumonia or typhoid fever. Gull and Suttén studied sixty-two cases without medicine and arrived at the same conclusions.

I believe salicylates should be administered combined with large doses of soda bicarb., for the relief of pain if for no other reason, and many competent men think the administration of salicylates lessens the possibility of carditis.

The more recent method of treatment looks to the newer biological product, phylacogens. Many encouraging reports have been published regarding its efficiency in the cure of arthritis. Like many other new remedies, it is still new

and untried. Still I believe it has a field of usefulness, and should be encouraged until it can be placed on a sound basis.

I am of the opinion that one of the great drawbacks to phylacogens will be in a diagnosis, or perhaps what is more difficult, determining the organism producing the arthritis.

To attempt to take up a diagnosis and differential diagnosis of all of the conditions that enter into consideration in making a correct diagnosis in arthritis would make a paper of this kind very tedious. One condition however that should always receive serious consideration in dealing with a case of painful swollen joint is osteomyelitis. There is no condition I know of in which greater good can be accomplished if early recognized and treated surgically. On the other hand there are few conditions in which greater harm may be done if a case goes unrecognized and is treated for rheumatism as so often happens.

As a closing remark I would suggest that in dealing with every case of so-called rheumatism, the nervous system should receive a careful investigation, and an equally careful search be made for focal points of infections and toxemias from without as well as those produced within the body.

It is true that many men attach but little importance to the latter statement that toxins play a part in the painful joints so often met with. I have not seen a single case of spondylitis deformans that did not have one or two other following conditions, bronchorrhea, bronchiectasis, or alveolar pyorrhea. I have seen three cases which from all appearance were arthritis deformans in which there was a severe alveolar pyorrhea in two. In one there was bronchiectasis. I was not able to keep up with the cases and see the result of treatment.

I have had a number of cases in which the joints were so painful that walking had become very distressing, and were relieved by some regulation of diet with frequent purgation and laxatives. I have a patient under observation at present who had almost lost the use of one arm, and had not been able to raise it to her mouth in months. She also suffered with headaches and what I took to be intestinal stasis. The only treatment given was that directed toward the digestive tract, and the improvement

has been very marked. I am aware that this patient is not cured and is subject to a return of the trouble. I am further aware that such reports do not place the condition on a sound basis. It is a subject that one can become very narrow in, still I am unable to get away from the idea that many of our rheumatic conditions so-called take their origin from the intestinal tract, either from the products of faulty digestion and absorption, or alteration in the intestinal flora or bacteria.

EUGENICS.

(SELECTED)

Whenever an investigator or group of investigators begins polishing a rough ashler of natural truth with the chisel of science, an army of urchins sets to building temples of the chips. It was so with the theory of evolution. Darwin had no more than announced his hypothesis before welterweight speculators and glib guessers advanced claims of which Darwin never dreamed and promised developments that have never materialized. So it has been with nearly every other great discovery in natural science. So it is now with the theory of eugenics.

We say "theory" of eugenics. Science of eugenics there is none, as yet. No competent investigator is prepared to say that it can ever be made a science. Truth to say, the competent investigators, those who know most about the subject, say least about it. Those who say most about it are space writers in need of copy and catch-as-catch-can lecturers who need a subject.

The popular pother of eugenics is that if we do not allow criminals to produce children, there will be no criminals; that if only persons of good physical, mental and moral fibre produce children the world will, in a generation, be peopled with a full race intellectually, morally and physically fit. That is good catch-penny science, but it does not go a great way with the practical biologist.

What would be the requisites of a practical science of eugenics? First, man must be considered purely from the biological standpoint, just as the horse or the hog. That would mean the elimination of a great mass of sentiment—largely worthless sentiment, we may as well admit, but for that very reason very tenacious. Man will contend that he has a soul and that,

having a soul, he is entitled to exemption from the rules of breeding applied to all other domestic animals. All that may be very poor logic, but it is very strong sentiment and could not be fully overcome unless by some superior power supervising the human family as a vast breeding establishment for the evolution of a perfect type of man. Government might exercise the supervising function but imperfectly, because agents of government must be imperfect specimens of the very species whose breeding is sought to be improved.

Let it be granted, for the sake of getting on with the discourse, that the bulk of sentiment is removed, that the supervising function is lodged in governmental creatures at least measurably capable of exercising it, that the breeding of men goes forward in regular and prescribed form. What then?

Very evidently, there will be no such thing as breeding to a type, because humanity is a mongrel breed. The blood of a Cromwell is in the veins of a drunken wife-beater in a low street. The "daughter of a thousand earls" flaunts gaudy rags in the glare of the red light. The blood of a Guy Fawkes or a Titus Oates may be in the man who wields the sceptre of state. A courtesan of the days of the Stuarts (or later by many generations) may be dam in some degree of her who is most virtuous. There is good blood in the bad and bad blood in the good. No man is child of his proximate parents only but of all who parented those parents through the centuries, and, by the law of atavism, the traits of a sire, however remote, may out-crop in the child. The child may be unfit, no matter how eugenically fit are the immediate parents.

To be sure, these top-water scribblers who say a great deal more than they know, will point to that unfortunate English female criminal, nearly all of whose 1,000 descendants were criminals, and to that good American family of Edwards which has produced in every generation ministers, lawyers, doctors, public men. Deduction: the children of criminals are criminals, the children of the virtuous are virtuous. Unfortunately—or fortunately—a broader look at life smashes that conclusion to bits.

Nancy Hanks and Thomas Lincoln were not of eugenic union. A score of reasons, at the

least, could now be urged against their union. But, over against all the theorizing in the world, there stands Abraham Lincoln. Nathaniel Hawthorne and his wife would, by all the tests, have been counted fit. Over against all theories stands their son facing trial for common swindling. The unfit rear the fit and the fit rear the unfit. We see a mongrel breed, never conforming to type, atavism playing such pranks with us as to make the whole eugenic attempt appear rather farcical.

If the sufficiently powerful supervisory system could be put in operation tomorrow, four centuries hence—allowing for three generations to the century—there might be in the world a standard-bred race of men—not pure bred, but artificially standard, and capable of producing offspring a majority of whom would conform to type. There would still be numerous rever-sions, just as the purest blood lines of the standard-bred horse frequently throw a worthless scrub, but the majority of men would come standard bred.

That would be so from the physical standpoint. Would it be so from the moral and the intellectual standpoint? No man can answer. Breeding has concerned itself, heretofore, with biology, not at all with psychology and ethics. At the end of four centuries we might have a race of magnificent human brutes. The balance of probability is, however, that mental and moral development would keep pace, approximately, with physical, but the necessity for triple up-building would increase three-fold the difficulty of selecting parents.

That puts no very favorable light on the now theoretic science of eugenics. Let it be understood, nevertheless, that we are not opposing eugenics—rather that we reasonably favor it. But we would leave scientists to work it out along scientific lines. Meanwhile, we would caution those who, in one phase or another, are interested, not to wax enthusiastic over the frothings of the writer and the talker who must sling ink or wag his tongue regardless of whether or not he knows anything to say. Eugenics is a worthwhile sort of thing, but it can never be accomplished except in limited degree, and that after long effort, with full wisdom applied to the task.—*Editorial, Nashville Banner, March 8, 1913.*

NASHVILLE OFFERS OPPORTUNITY

"Vote for your next Convention to come to Nashville" stands at the head of all printed matter gotten out by the Nashville Board of Trade and the Industrial Bureau for the reason that there is no other city south of the Ohio River which offers so many opportunities for successfully entertaining conventions as does historic Nashville.

NASHVILLE, THE CITY OF HISTORY.

The early history of Nashville possesses the elements of romantic interest in as great degree

sent to the hunting grounds of all and the residence of none.

When Occonostata, the famous Cherokee chief, reluctantly assented to a treaty with Daniel Boone whereby the "Father of Kentucky" gained a lovely, though "dark and bloody ground" he remarked: "We have given you a fine land, but I think you will have much difficulty in holding it!" His statement was prophetic. The strong forts and stations in the valley of the Cumberland, which had been expected to be a protection to the Cherokees, a barrier against the eruptions of the savage tribes of the North,



Bird's-Eye View of Nashville.

as the most thrilling story of antiquity. Every one knows where Nashville is, but few know how it came to be. For generations prior to the founding of this city, the broad region of which the site of Nashville was the center was a beautiful wilderness, a paradise of the hunter and the trapper, a natural park, uninhabited by even the red man, for the territory south of the Ohio and north of the Tennessee River was debatable land. It has been claimed by the five nations of the North and by the Cherokees of the South, and long before the interloping pale-face had crossed the Appalachian Mountains, it had been devoted by common-interest con-

became the objects of attack of all the red men and the victims of their hate and cruelty.

THE SITE OF NASHVILLE.

In 1779 James Robertson, the "Father of Tennessee," with seven white men and a negro, reached the site of the present city of Nashville. They found the surrounding country teeming with game and wild animals of many species. There were buffalo, deer, elk, bears, turkeys, wolves, foxes and other specimens of an extensive fauna. From the Lick radiated in all directions broad paths beaten smooth by the tread of countless buffalo whose resonant bellowings disturbed their sleep. Their report to the pioneers

of East Tennessee aroused enthusiasm to a high pitch, and two expeditions were soon on the way to the land of promise. One was led by Robertson overland, and the other, in charge of Col. John Donelson, embarked on the Tennessee River. The former easily and quickly reached the coveted goal, but the latter suffered incredible hardships, through the treacherous eddies and rapids of an unknown stream and the frequent attacks of hostile Indians, and arrived, at the bluff months afterward. With this party

given in honor of General Francis Nash, a native of North Carolina and a gallant officer of the Revolution, who fell in the battle of Germantown at the head of his brigade. In 1784 the Legislature of North Carolina enacted a law which provided that 200 of the 640 acres surrounding the Great Lick should be laid off for a town to be known as Nashville. From this time on the situation and surroundings of Nashville attracted immigrants in a constantly accelerating stream, and with reason, for the location of this city is almost ideal.



Nashville Custom House and Post Office.

was Colonel Donelson's beautiful daughter, Rachel, afterwards the wife of Andrew Jackson.

For nine years thereafter these pioneers suffered every form of hardship which lack of food and fear of instant death at the hands of a merciless foe could induce, everything, indeed, except disease. It is a remarkable fact that during the first two years there was only one death from natural causes, though the total mortality was large.

THE EVOLUTION OF NASHVILLE.

At first the little settlement was known merely as the Bluff; next as Nashborough, a name

NASHVILLE'S GROWTH.

The growth of Nashville during the last decade in population, capital, industries, products, manufacturers and receipts has been notable and significant of the unusual and steady growth of the city along all lines.

During the period mentioned property values have doubled; the number of industries has more than doubled; the postoffice receipts have nearly tripled; the value of factory products has approximately tripled; capital has almost quadrupled; bank clearings have increased in a similar ratio, and bank deposits are more than five times those of 1900, and the present building

situation promises that the coming year will be one of the greatest, if not the greatest in the history of the city.

During this time, covering a period of ten



Young Men's Christian Association.

years Nashville's population increased from 80,865 to 130,000, her bank deposits from \$5,992,455.04 to \$28,622,457.99, sales of factory products from \$11,873,734 to \$41,820,000, postoffice receipts from \$213,056 to \$621,404, number of industries from 327 to 516. These figures are given for the purpose of apprising those who are not familiar with Nashville's rapid growth with the splendid showing she is making in the commercial world.

NASHVILLE'S FAME.

While your Convention is in session the delegates will have an opportunity to walk the streets which Jackson walked when rising from a backwoods lawyer to the Presidency. You will see the city where took place the greatest political pageants in American history. You will see the Hermitage, the home of President Jackson, which is located a few miles from Nashville and around which so much history clusters. You will see the old family coach in which Jackson rode to Washington to be inaugurated President of the United States. You will see

the fixtures and furnitures of this old colonial and palatial homes wherein lived the man whose memory every Tennessean reveres. You will see the tomb which marks the last resting place of Jackson and his devoted wife; also countless relics of this distinguished soldier and statesman.

Nashville has been a city of fame since it was founded, its prestige outstripping its population; for, while its population in 1830 was but little more than 5,000 its fame extended throughout the country. Its pre-eminence may be imagined from the fact, that, when Texas declared her independence of Mexico in 1836 a messenger was dispatched to Nashville that an announcement of the formation of the new Republic might be made to the world.

From Nashville marched the troops that forever broke the power of the Southern Indians. Here were marshalled the forces that won the greatest of American victories, the battle of New Orleans. The ladies of Nashville furnished with equipment all volunteers to the cause of Texas' independence. In the civil war, Nashville was one of the battle grounds. Grant was making his headquarters here when named the Lieutenant-General of the United States



One of the New Bridges Spanning the Cumberland.

Army. Thomas and Hood grappled here for its possession in one of the concluding scenes

of the war, and there are abounding evidences today within a stone's throw of the city of Nashville of the terrible conflict between the opposing forces of the Civil War. In fact, within the corporate limits of Nashville stands today Fort Negley and other forts whereon were fought some of the decisive battles of this great conflict.

A HEARTY WELCOME AWAITS YOU.

The Nashville Board of Trade and the Nashville Industrial Bureau joins most heartily and

unlimited, unsurpassed, and unequalled opportunities.

The Nashville Board of Trade's co-operation and affiliation with the doctors of Nashville has been most pleasant and beneficial. It was through this co-operation of strength and skill that Nashville can now boast of having one of the best and most effective milk ordinances of any city, whereby the citizens of Nashville are furnished a supply of milk that for quality and wholesomeness is equalled by few cities. It was through this same channel of co-operation and



St. Thomas Hospital.

cordially the several hundred prominent physicians of the city of Nashville in welcoming the delegates of the Tennessee State Medical Association. You will find the latch string hanging out and the splendid citizenship will give you a cordial welcome and help you enjoy the time spent in this, an essentially Southern city, which is widely known as the "Athens of the South" and has become famous as the city of

affiliation that Nashville has a Smoke Commission which promises to rid this city of the smoke nuisance. In matters of health, civics and hygiene, the Board of Trade through its civic improvement and Public Health Committee has at all times taken advantage of every opportunity to make Nashville one of the best, cleanest and most healthy cities in which to live, and it is with a good deal of pleasure that it learns that



Doctor's Lavatory, St. Thomas Hospital.



Private Room, St. Thomas Hospital.

so important a gathering as the Tennessee State Medical Association is to marshal its forces and spend several days in Nashville, the City of Beautiful Homes, Historic Surroundings, the "Athens of the South." Every citizen wishes your delegates a pleasant and profitable stay.

St. Thomas Hospital, of Nashville, Tenn., which was formally opened on January 29, 1902, is conducted by the Sisters of Charity of St. Vincent de Paul, and is a thoroughly modern and up-to-date institution, equipped for the ac-

upon it. The Sisters are being importuned by the doctors to enlarge their building, and it is hoped that at a date not far distant a wing will be built.

The schedule of prices ranges from \$20 to \$35 per week for private rooms, and \$1 per day for wards; this includes board, medicine, and nursing.

Attached to the Hospital is a Training School, where young ladies desiring to enter the profession of nursing are enabled to take up a three



City Hospital.

commodation of over 100 patients. St. Thomas Hospital has aided the surgeons in scientifically caring for the sick. Physicians throughout Tennessee, as well as neighboring States, bring their patients to this institution. Nashville now justly lays claim to being one of the largest surgical centers of the South, and the fame of St. Thomas Hospital has grown to such proportions that the present structure seems entirely inadequate to meet the constantly increasing demands made

years' course of study, consisting of lectures by our leading physicians, study, and daily practice in the sick room.

The Nashville City Hospital was erected in 1890. It is situated on the bank of the Cumberland River, in close proximity to the Peabody campus. It accepts all cases except those of a contagious nature. A new addition has just been completed, which brings the total capacity to 160 patients.

Programme of Meeting

Opening Exercises.

Call to order by Dr. R. E. Fort, Chairman of the Committee on Arrangements.

Prayer, Rev. Carey E. Morgan, D.D., Pastor Vine Street Christian Church.

Address of Welcome on behalf of Nashville Academy of Medicine and Davidson County Medical Society, by John A. Witherspoon, M.D., Nashville.

Response to Address of Welcome on behalf of the Tennessee State Medical Association, by S. T. Hardison, M.D., Lewisburg.

Announcements by the Chairman of the Committee on Arrangements, and the Association placed in charge of the President, Dr. O. Dulaney, Dyersburg.

PROGRAMME.

TUESDAY, APRIL 8—10 A.M.

1. "Intra-Abdominal Abscesses and General Peritonitis, with Special Reference to Etiology, Pathology, Prognosis, and Treatment," by F. D. Smythe, M.D., Memphis.

To open discussion; R. E. Fort, M.D., Nashville.

2. "Backward Displacements of the Uterus; Stereopticon Illustration," by C. N. Cowden, M.D., Nashville.

To open discussion; S. M. Miller, M.D., Knoxville.

3. "Chondro-Multilocular Cystoma of Lower Jaw," by P. H. Faucett, M.D., Columbia.

To open discussion; W. A. Bryan, M.D., Nashville.

4. "Intra-Cranial Hemorrhage," by Robert Mann, M.D., Memphis.

To open discussion; T. O. Burger, M.D., McMinnville.

TUESDAY, APRIL 8—2 P.M.

5. "Report of Cases Treated with Brown's Modification of Hodgen's Splint," by W. M. McCabe, M.D., and Joseph Gallagher, M.D., Nashville.

To open discussion; L. L. Sheddan, M.D., Knoxville.

6. Symposium on Cerebro-Spinal Meningitis.

"History of Dyer County Epidemic," by W. P. McDavid, M.D., Dyersburg.

"Report of an Epidemic in an Institution," by Thos. Weaver, M.D., Nashville.

"Bacteriology and Pathology," by William Litterer, M.D., Nashville.

"Symptoms and Diagnosis," by E. A. Thayer, M.D., Mobile, Ala.

"Treatment," by Louis Leroy, M.D., Memphis.

Special Order for 3 P.M.

(Special address.)

7. "School Hygiene," by Frank Allport, M.D., Chicago.

To open discussion; G. C. Savage, M.D., Nashville.

8. "The After Treatment of Surgical Cases," by L. E. Burch, M.D., Nashville.

"Surgical After Treatment in Abdominal Cases," by Raymond Wallace, M.D., Chattanooga.

To open discussion; J. A. Crisler, M.D., Memphis.

9. "Earth Burial," by S. M. Miller, M.D., Knoxville.

To open discussion; W. B. St. John, M.D., Bristol.

10. "Paroxysmal Tachycardia," by F. T. Runyon, M.D., Clarksville.
To open discussion; B. S. Rhea, M.D., Lebanon.
11. "Notes on the Therapeutic Value of Some of the Physical Agents; As High Frequency Current," etc., by J. M. King, M.D., Nashville.
To open discussion; C. B. Wylie, M.D., Chattanooga.

TUESDAY, APRIL 8—8 P.M.—PUBLIC INVITED.

- (Presidential Address.)
12. "The Necessity for Full Organization of the Medical Profession," by O. Dulaney, M.D., Dyersburg.
(Special address.)
 13. "Responsibility of the Medical Profession for Preventable Diseases; Stereopticon Illustration," by A. T. McCormack, M.D., Bowling Green, Ky.
(Special address.)
 14. "An Illustrated Lecture on the Kidney," by Ramon Guiteras, M.D., New York City.
(Special address.)
 15. "Shockless Operations, with Especial Reference to Abdominal and Exophthalmic Operations," by George W. Crile, M.D., Cleveland.

WEDNESDAY, APRIL 9—9 A.M.

16. "Orthodontia," by N. C. Leonard, D.D.S., Nashville.
To open discussion; C. J. Broyles, M.D., Johnson City.
17. "Submucous Resection of the Nasal Septum," by Hilliard Wood, M.D., Nashville.
To open discussion; E. C. Ellett, M.D., Memphis.

Special Order for 10 A.M.

- (Special address.)
18. "Acid Intoxication in Children," by Isaac Abt, M.D., Chicago.
 19. "Three Cases of Prolonged General Suppurative Peritonitis Pointing at the Umbilicus, Incision and Cure," by W. D. Haggard, M.D., Nashville.
To open discussion; Elizabeth C. Kane, M.D., Memphis.
 20. "Treatment of Endometritis and Salpingitis," by T. Hugh Carter, M.D., Memphis
To open discussion; R. A. Barr, M.D., Nashville.
 21. "Diabetes with Report of Case," by K. S. Howlett, M.D., Franklin.
To open discussion; W. H. Witt, M.D., Nashville.

WEDNESDAY, APRIL 9—2 P.M.

22. "Pediatric Practice in the Small Town and Country," by W. N. Lackey, M.D., Gallatin.
To open discussion; O. H. Wilson, M.D., Nashville.
23. "Tonsillectomy and Tonsil Hemorrhage," by Richmond McKinney, M.D., Memphis.
To open discussion; Geo. H. Price, M.D., Nashville.
24. "Chronic Intestinal Stasis," by E. M. Sanders, M.D., Nashville.
To open discussion; E. T. Newell, M.D., Chattanooga.

Special Order for 3 p.m.

- (Special address.)
25. "Clinical Observations and Renal Lithiasis," by W. F. Braasch, M.D., Rochester, Minn.
 26. "The Treatment of Acute Intestinal Obstruction," by W. A. Bryan, M.D., Nashville.
To open discussion; S. M. Miller, M.D., Knoxville.

27. "Osteoplastic Operation for Pott's Disease, with Exhibition of Case," by R. W. Billington, M.D., Nashville.
To open discussion; W. C. Campbell, M.D., Memphis.
28. "Herba Panacea," by W. B. St. John, M.D., Bristol.
To open discussion; McPheters Glasgow, M.D., Nashville.

WEDNESDAY, APRIL 9—8 P.M.

Smoker by Nashville Academy of Medicine—Tulane Hotel.

THURSDAY, APRIL 10—9 A.M.

29. "Puerperal Eclampsia," by J. A. McCulloch, M.D., Maryville.
To open discussion; J. T. Altman, M.D., Nashville.
30. "Business Side of Medical Practice," by D. L. Flanary, M.D., Dyersburg.
To open discussion; Scott Farmer, M.D., Cookeville.
31. "Adenitis in Children," by O. W. Hill, M.D., Knoxville.
To open discussion; James H. Atlee, M.D., Chattanooga.
32. "Inguinal Adenitis Treatment," by E. T. Newell, M.D., Chattanooga.
To open discussion; E. E. Reisman, M.D., Chattanooga.
33. "Injuries of the Spine; with Report of Two Recent Cases," by Jere L. Crook, M.D., Jackson.
To open discussion; Duncan Eve, M.D., Nashville.
34. "Diagnosis and Treatment of Gastric and Duodenal Ulcer," by W. A. Howard, M.D., Union City.
To open discussion; J. S. Bachman, M.D., Bristol.

Report of Nominating Committee, 11 A.M.

THURSDAY, APRIL 10—2 P.M.

35. "The Importance of Medical Lectures in Our Rural Schools," by Scott Farmer, M.D., Cookeville.
To open discussion; W. J. Breeding, M.D., Sparta.
36. "Protective Ferments and Some Practical Diagnostic Applications," by Carroll G. Bull, M.D., Chicago, Ill.
To open discussion; Wm. Litterer, M.D., Nashville.
37. "Cancer of the Uterus," by E. D. Newell, M.D., Chattanooga.
To open discussion; A. G. Kern, M.D., Knoxville.
38. "Vesical Calculus, with Report of Case," by Geo. R. Livermore, M.D., Memphis.
To open discussion; C. F. Anderson, M.D., Nashville.
39. "Foreign Bodies in the Trachea and Esophagus," by J. McChesney Hogshead, M.D., Chattanooga.
To open discussion; E. B. Cayce, M.D., Nashville.
40. "Disease of the New Born, with Report of Cases," by Jas. H. Atlee, M.D., Chattanooga.
To open discussion; S. M. Bloomstein, M.D., Nashville.
41. "Blood Pressure," by Jos. W. Johnson, M.D., Chattanooga.
To open discussion; P. H. Anderson, M.D., Memphis.
42. "Cancer," by J. S. Dye, M.D., Chattanooga.
To open discussion; R. L. Jones, M.D., Nashville.
43. "Some Surgical Diseases of the Stomach: A Plea for Their Early Recognition," by Edward E. Reisman, M.D., Chattanooga.
To open discussion; L. E. Burch, M.D., Nashville.

THE JOURNAL

OF THE

Tennessee State Medical Association**Office of Publication, Jackson Building, Nashville, Tenn****APRIL, 1913.****EDITORIALS****EUGENICS.**

On another page we reproduce an editorial from a recent issue of the *Nashville Banner* on the subject of Eugenics. In many respects this is a very remarkable production. In spite of a certain flippancy which in places mars its dignity and detracts from its force, it reveals a familiarity with the subject and a comprehension of the great principles underlying it which would attract attention even in a strictly scientific publication.

It is quite apparent, however, that the article contains a number of patent fallacies. Obviously written in popular vein and not intended to withstand the probings of scientific criticism, its purpose was evidently to please rather than to instruct; and its conclusions, drawn from ill-considered premises, are naturally more or less erroneous.

For example, it is assumed that Eugenics, tersely defined as that department of social science which concerns itself with the birthing of better babies, is in some sense restricted to the physical, that the most it could be expected to accomplish would be the ultimate production of a race of people conforming to a standard type of physical excellence. No such paltry motive or ambition inspires the true student of the subject. Without affecting to disdain the many advantages of bodily vigor and development, the best-informed exponents of the new science regard this as a secondary considera-

tion. It is fundamental and axiomatic in modern thought that man is a three-fold unit; that mental and moral no less than physical excellence must be accepted as necessary attributes of the highest type of manhood. Any other conception would at once reduce humanity to the level of the brute creation, and any movement based upon the importance of the physical only, or mainly, would today have few adherents worth considering. More than one of the ancient nations deluded themselves with the dream of national supremacy through physical superiority, and in the effort to attain it foundered and disappeared forever.

Again, it is assumed in the article under discussion that nothing more than improvement of the physical would be possible from the most consistent application of the principles of Eugenics. Such a conclusion is wholly unwarranted. In the breeding of horses and dogs intelligence and docility may be as certainly secured in the offspring as speed, acuteness of smell, or some special modification of the bodily contour. And we may see the same truth exemplified in the human species, if we will only open our eyes to the visible teachings of the every-day life about us. That like produces like is no more positively true of the physical than of the mental and the spiritual. The leaders in the world's worthiest activities do not spring from the slums; the highest types of citizenship in our land are represented by the men and women whose parents possessed similar attributes, and who were reared in enlightened, cultured homes. Of course there are occasional rare exceptions to the rule, and the exceptions receive acclaim chiefly because of their very rarity. Making all due allowance for the possible influence of atavism and environment, the fact remains indisputable that in the overwhelming majority of instances the children of healthy, intelligent, God-fearing parents will themselves be healthy, intelligent and God-fearing.

But why not face the question squarely? The

subject is a profoundly complex and difficult one, and the study of it can lead us nowhere if levity or prejudice characterize our attitude toward it. In the United States about two and one-half million babies are born each year. Of these twenty per cent die before the end of the first year and fifty per cent die before reaching the age of twenty-three. Only one and one-fourth million will reach full maturity, and of these certain thousands will be blind or otherwise congenitally handicapped, certain other thousands will go to populate institutions for the feeble and defective, and still other thousands will become habitual criminals. Perhaps one million of the two and one-half million annual crop is a fair estimate of the number which will prove to have been well-enough born and reared to become productive members of society, to perpetuate our country's institutions, to safeguard its ideals, and to promote its high destiny among the nations of the earth.

Figures and facts like these should give us pause. There is certainly a broad and fertile field for Eugenics. It is in this direction and by means of some such movement that the progress of humanity must be secured.

Harking back to the inspiration of these remarks, we would commend the *Banner* editorial to our readers. Its perusal will prove both entertaining and profitable. The appearance of such an article in a daily newspaper is a significant and vastly encouraging expression of the times in which we live.

PRESIDENT WILSON AND PUBLIC HEALTH.

The inaugural address of President Wilson was a most significant utterance. No such striking combination of the practical and the ideal characterizes any state paper of recent times. What is said on each subject treated reveals a lofty patriotism, keen logical reasoning, mature judgment, and good sound business sense. And

the whole address is couched in elegant, faultless diction.

The following excerpt dealing with the question of public health will prove of special interest to our readers:

"Nor have we studied and perfected the means by which government may be put at the service of humanity, in safeguarding the health of the nation, the health of its men and its women and its children, as well as their rights in the struggle for existence. This is no sentimental duty. The firm basis of government is justice, not pity. These are matters of justice. There can be no equality or opportunity, the first essential of justice in the body politic, if men and women and children be not shielded in their lives, their very vitality, from the consequences of great industrial and social processes which they cannot alter, control, or singly cope with. Society must see to it that it does not itself crush or weaken or damage its own constituent parts. The first duty of law is to keep sound the society it serves. Sanitary laws, pure food laws, and laws determining conditions of labor which individuals are powerless to determine for themselves are intimate parts of the very business of justice and legal efficiency."

These are brave and hopeful words. Reading between the lines it is easy to see that the Chief Executive realizes the paramount importance of the public health problem and means to give it the serious consideration which is its due. Nothing more is desired; nothing less will suffice. The time has come in the history of our nation when the lives and health of its people can no longer be subordinated to the relatively inconsequential demands of commercial and political interests. "The firm basis of government is justice," and the first essential of justice in the body politic demands "the safeguarding of the health of the nation, the health of its men and its women and its children, as well as their rights in the struggle for existence."

It is not a matter of particular moment whether the Owen bill, providing for an independent bureau or department of public health, becomes a law or not. The thing that is of moment, of stupendous and overshadowing moment, is that the government recognize its sacred obligations in the premises and assume without further delay its proper responsibility with reference to the issues involved.

If, as seems clearly indicated, President Wilson intends to bring to bear upon the subject the full power of his great mind and heart and conscience, we may well believe that a happy day dawned for our country when he became the official guardian of its destiny.

THE NASHVILLE MEETING.

The 1913 meeting is close at hand. Elsewhere in this issue we have devoted several pages to data descriptive of the Capital City and a few of its surrounding institutions. Most of this is doubtless already more or less familiar to the profession of the state, but may serve as a pleasant reminder of some of the attractions awaiting.

The meeting will be held on the second floor of the magnificent new Y. M. C. A. building where the arrangements are exceptionally convenient and complete for the purpose. In addition it is centrally located and readily accessible from all of the various hotels.

The program, while not complete at this writing, promises to be full and unusually rich both in quality and variety. The subjects already announced and the personnel of the essayists are sufficient guarantee of the excellence of the treat in store. The distinguished visitors who appear upon the list are certain to bring messages which none can afford to miss hearing.

The local committee of arrangements has not yet announced its plans. A number of entertainment features are being discussed looking to the provision of acceptable pabulum for the physical as well as the mental man. All may rest assured that nothing will be left undone to promote the comfort and pleasure of those who attend. Definite announcement in this regard will be made in the official program.

We sincerely hope that the coming meeting will be the largest and best in the history of the association. There is no reason why it should not be. The benefits to be derived are not open to question. Every member who attends will return to his work invigorated and filled with renewed zeal.

Let every one who can possibly do so arrange to devote April 8, 9 and 10 to the interests of his state meeting. Correctly viewed his personal interests are also deeply concerned.

VALEDICTORY.

With this number our editorial functions terminate. In bidding adieu to our readers candor compels the admission that we do so with a sense of relief, if not altogether without regret. The editors have labored earnestly to produce a journal which would be in keeping with the dignity and high standards of our organization, of which no member would have cause to be ashamed. If we have succeeded in any measurable degree we are content.

A valedictory carries with it the time-honored right to counsel and admonish. We shall not take advantage of the occasion further than to say that, viewed from the editor's sanctum, more perfect organization and a more zealous spirit of individual co-operation are the greatest needs of our association. It only requires the cultivation on the part of its members of an attitude of personal responsibility to make of our state organization all that it should be and is capable of being. This we bespeak for our successor. He will need encouragement; you can not afford to withhold it.

MEMBERS, TAKE NOTICE!

Parties desiring to attend the American Medical Association meeting in June would do well to make reservations at an early date in order to avoid the confusion due to natural difficulties in handling the large crowd which will attend. The Secretary will be glad to make reservations over the Chicago, Milwaukee and St. Paul R. R. in a special sleeper leaving Chicago on Monday evening, June 16 and arriving in Minneapolis the following morning in time for the opening session. Send your application for sleeping car reservation in this doctors' SPECIAL to the Secretary of the State Association and he will make arrangements for you.

ASSOCIATION NEWS.

MEMBERSHIP IN THE AMERICAN MEDICAL ASSOCIATION.

THE PROPOSED CHANGE IN NAME.

BY GEORGE H. SIMMONS, M. D., LL. D.,

Chicago.

Explanatory Note.—This abstract of an address before the Conference of State Secretaries is republished from the American Medical Association Bulletin of November 15, 1912, on the request of the Judicial Council. The House of Delegates referred the report of the Committee to Formulate Amendments to the Constitution and By-Laws to extend membership, presented at the 1912 session (Journal, June 15, 1912, p. 1899) to the Judicial Council with power to confer with constituent Associations. The Council, after careful consideration, indorses the proposed change and takes this means of bringing the subject to the constituent Associations as well as directing to it the attention of the members.

I have been asked to discuss the present conditions of membership in the American Medical Association and the proposed change, which has been under discussion recently. While this is not directly related to the object of this conference, the discussion of uniform regulation of state membership, it is so closely connected with it that I cannot refuse to take advantage of the opportunity of discussing the question before such a large representation of state secretaries.

To get a clear understanding of what the present term "members" of the American Medical Association means, it is necessary to go back a little in the history of the Association.

The American Medical Association always has been a delegated body; only "delegates" ever had a right to take part in its proceedings.

"Permanent members" was a term originally applied to those delegates who connected themselves permanently with the Association after they had served as delegates. "Permanent members," however, had no rights except those of attending the meetings and taking part in the scientific work. In 1883, THE JOURNAL was started and the following year, for the purpose of increasing the circulation of THE JOURNAL,

there was created another class: "Members by Application." A member of any so-called affiliated society could become a "member by application" simply by making application for membership and paying the annual dues. The difference between "members by application" and "permanent members" was that the latter had been delegates, whereas the former became members simply by making application. Neither "permanent members" nor "members by application" had vote or voice in business meetings.

MEMBERSHIP IN THE A. M. A. TODAY ON THE SAME BASIS AS THE FORMER "MEMBERS" BY APPLICATION."

Briefly, we have the following situation:

1. The voting membership of the organization is the combined membership of all the 2,000 (more or less) component county societies, amounting approximately to 70,000 members. These elect the delegates to the House of Delegates of the state associations; they in turn elect the delegates who form the House of Delegates of the American Medical Association. Before 1901 the delegates to the American Medical Association were elected, or appointed, by the "affiliated" societies, which included local, district and state societies. Since 1901, that is, since the reorganization, the delegates to the national body are elected not by local, district and state societies, but by the state societies alone.

2. The so-called "members of the American Medical Association" are the direct successors of the old "members by application." By their payment of dues and their subscriptions to THE JOURNAL, they were and are today the supporting or contributing group of the members of the organization.

3. The House of Delegates is composed of approximately 150 members, who are elected by the various state Houses of Delegates, which are in turn composed of delegates elected by the members of the component county societies. The House of Delegates of the American Medical Association, therefore, is created by, and represents the combined membership of all the county societies of all the states; it is not elected by, nor does it represent, the present "members of the American Medical Association" as such; it never has.

The result is that we have two classes which could be called members. First, the actual, log-

ical memberships of 70,000, usually designated as "the membership of the organization." Second, the 36,822 contributing or supporting members, who are designated as "members," although these "members of the American Medical Association" have no more privileges than have all members of the organization, except the right to take part in section work. This present situation I have had shown on the accompanying chart (Chart 1). The membership of the American Medical Association, at present

associations, also contribute to the support of the American Medical Association, while for the actual membership of 70,000 members we have no distinctive name.

The change that has been proposed is not a change in condition at all. It is simply a change in name. It is proposed to designate the 70,000 members included in the large outer circle (Chart 2) as "members of the American Medical Association," which they really are and always have been, while those included in the in-

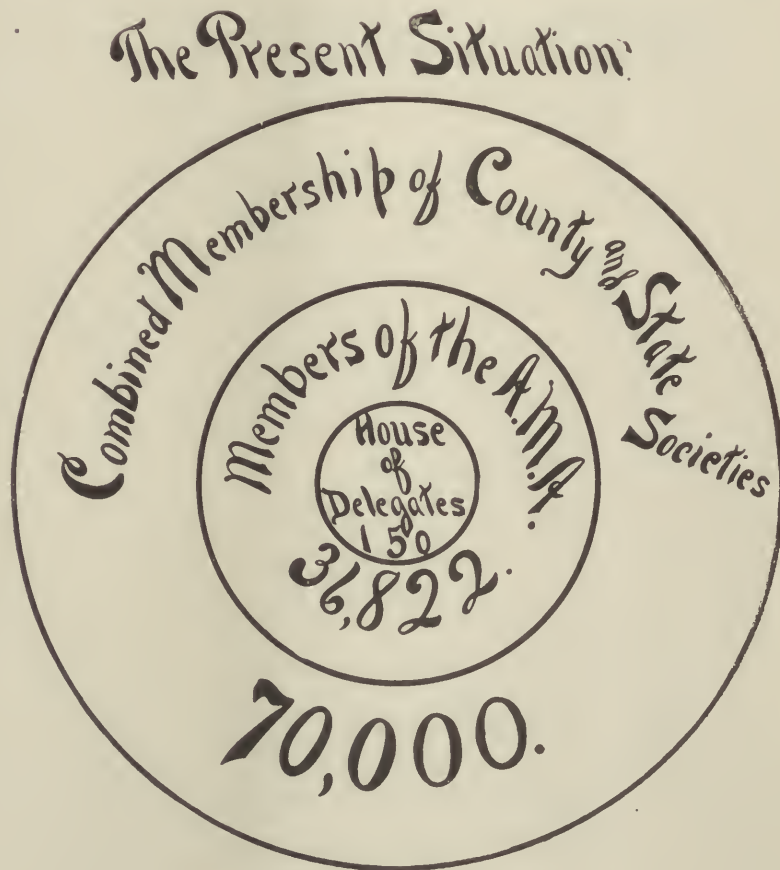


Chart 1

36,822, is an inner circle of the membership of county societies, while the House of Delegates is a still smaller circle composed of those who have been elected to represent the members of the organization of the whole country.

Now the situation itself is perfectly logical and is in every way to be commended. The trouble is that we have not named our groups accurately. Those whom we now call "members of the American Medical Association" are really those members of the organization who, in addition to supporting their county and state

ner circle (that is, those members in good standing in their county and State societies, who also pay \$5 a year to support the work of the American Medical Association) are to be called "fellows of the American Medical Association" instead of "members." This will make no change in the membership standing or relations of any man. If this suggestion is adopted, all members in good standing in their state organizations will be designated as "members of the American Medical Association," while those members who contribute \$5.00 a year to support the work of the

Association will be designated as "fellows of the American Medical Association." In other words, those who are now known as "members" of the American Medical Association will be known as "fellows" of the American Medical Association, while the term "members" will be applied to the entire, combined membership of the component county societies of the whole country.

This plan has several advantages. In the first place it will give us a name for the entire membership of the organization, which we have never

stood. This, of course, would be a ridiculous proposition. The proposed change contemplates leaving membership conditions exactly as they are; it contemplates changing the name, and not the relation.

One great disadvantage prior to the reorganization of the American Medical Association in 1901 was the fact that we had no name by which to designate the delegates. As soon as the name "House of Delegates" was adopted, then the function of the delegates became clear at once.

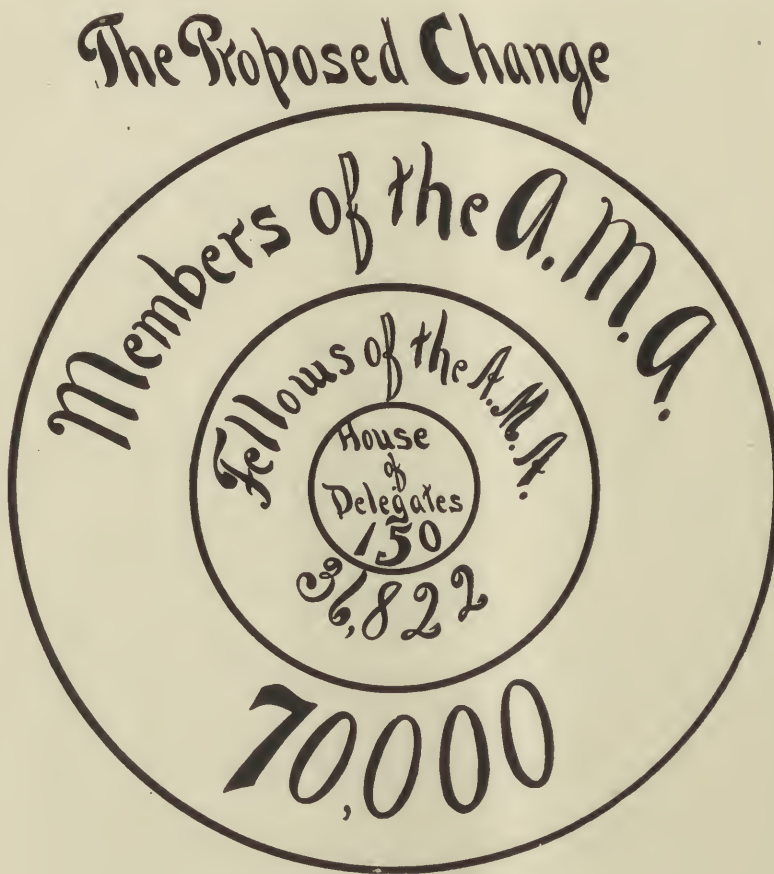


Chart 2

had before. Before 1901 they were referred to as members of "affiliated" societies, and since then they have been called, for lack of a distinctive name, "members of the organization." Another advantage will be that it will make clear that the voting power lies with the 70,000 members and not with the 36,822 "fellows." When this plan was first proposed, some got the impression that the intention was to compel the 70,000 members of the county societies to become "supporting members" of the American Medical Association, as the term is now under-

The Association also has labored under the disadvantage, ever since its reorganization, that there has been no name by which to designate the actual voting membership, because the term "members" had been applied to the supporting body. The proposed change simply recognizes this fact, designating as "members" those who really are members, and designating the supporting members as "fellows."

I have already given some reasons for making the change, but there is another and more important; in fact, it is the paramount reason.

Up to the present time, the members of the organization have not realized that they are, in reality, members of the American Medical Association. They regard the American Medical Association as something entirely apart from them, something in which they have no interest. These members of the organization are through their elected representatives responsible for what the American Medical Association is doing, or what it ought to do and is not doing, but they do not realize this, hence they are not interested. They do not appreciate that the House of Delegates of the American Medical Association, which they elect, is the body that is doing the work through the officers, trustees, councils, etc., which they, through their representatives in the House of Delegates of the American Medical Association, select. While only a change in name, I think the subject is of the utmost importance. I hope that all of you will look into it carefully, so as to understand exactly what is intended, and then will explain it to your members at the first opportunity.

NEWS ITEMS.

The organization of the Medical Department of University of Tennessee which will now be the only medical college in Memphis, has been completed and the following details of same will be of interest to many of our readers:

The Board of Trustees decided to name the buildings, and hereafter the main building on Madison Avenue will be known as Lindsley Hall, in honor of Dr. J. Berrien Lindsley, who was one of the founders of the University of Nashville and of the University of Tennessee in Nashville. The new building will be known as the Eve Building, in honor of the memory of Dr. Paul F. Eve, who was also a founder of the University of Nashville and the University of Tennessee Medical Department. Dr. Eve was a distinguished surgeon and was at one time President of the American Medical Association.

The Memphis Hospital Medical College Building, on Union Avenue, will be known as the Rogers Building, in honor of the memory of Dr. William E. Rogers, father of Dr. W. B. Rogers. He was the founder of the college. The enrollment at present in both schools is 463, and each is working separately, as the trustees doubted the wisdom of changing the classes in the middle of the term.

The examinations will be held separately, but it is likely that the commencement exercises will take place at the same time.

Dr. H. T. Brooks will be dean and the following is the complete list of the faculty:

Emeritus Professor of Obstetrics and Pediatrics—Alexander Erskine, M.D.

Emeritus Professor of Eye, Ear, Nose, and Throat—A. G. Sinclair, M.D.

Emeritus Professor of Gynecology—Dr. R. B. Maury.

Emeritus Professor of Medicine—Heber Jones, M.D.

Emeritus Professor of Surgery—W. B. Rogers, M.D.

Emeritus Professor of Medicine—B. G. Henning, M.D.

Professors of Ophthalmology—Dr. E. C. Ellett and Dr. J. L. Minor.

Professors of Surgery and Clinical Surgery—Dr. E. M. Holder, Dr. M. Goltman, Dr. Battle Malone, and Dr. E. E. Francis (and of regional anatomy).

Professor of Genito-Urinary Diseases—Dr. G. R. Livermore.

Professor of Operative Surgery—Dr. J. L. McGehee.

Professor of Pediatrics—Dr. A. G. Jacobs.

Professors of Gynecology—Dr. J. M. Maury and Dr. F. D. Smythe.

Professor of Diseases of Nose, Throat, and Ear—Dr. Richmond McKinney.

Professors of Diseases of Nervous System—Dr. G. C. Buford and Dr. B. F. Turner.

Professor of Diseases of Skin and Syphilography—Dr. Marcus Haase.

Professor of Tropical Medicine—Dr. William Krauss.

Professor of Materia Medica and Therapeutics—Dr. W. H. Pistole.

Professors of Obstetrics—Dr. P. W. Toombs and Dr. J. L. Andrews.

Professor of Orthopedic Surgery—Dr. W. C. Campbell.

Professors of Medicine and Clinical Medicine—Dr. Louis LeRoy, Dr. J. B. McElroy, Dr. F. A. Jones (and physical diagnosis), Dr. R. S. Toombs (and medical ethics), Dr. J. J. Ruddleston.

Professor of Rectal Surgery—Dr. D. M. Henning.

Professor of Pathology and Bacteriology—Dr. H. T. Brooks.

Professor of Anatomy, Histology, and Embryology—Dr. A. H. Wittenborg.

Professor of Chemistry, General and Physiological—Dr. L. J. Desha.

Professor of Physiology, Pharmacology, and Radiography—Dr. O. S. Warr.

ASSOCIATE PROFESSORS.

Associate Professor of Clinical Surgery—Dr. L. W. Haskell.

Associate Professor of Ophthalmology—Dr. Robert Fagin.

Associate Professor of Pediatrics—Dr. E. C. Mitchell.

Associate Professor of Gynecology—Dr. E. D. Watkins.

Associate Professor of Clinical Medicine and Physical Diagnosis—Dr. B. W. Fontaine.

Associate Professor of Operative Surgery and Professor in Anatomy—Dr. Robert Mann.

COUNTY SOCIETY PROCEEDINGS.

WASHINGTON.

RUTHERFORD COUNTY.

The Rutherford County Medical Society met in the office of Dr. E. H. Jones, Murfreesboro, March 5.

The meeting was called to order by President, Dr. B. N. White.

Dr. J. C. Overall, of Lascassas, delivered an address on the subject of "Pleurisy," which was discussed by all present.

On motion of the Secretary, Dr. Overall's paper was forwarded for publication in the JOURNAL.

Members in attendance were as follows: Drs. J. C. Overall, J. T. Harris, E. H. Jones, Rufus Pitts, J. A. Scott, B. N. White, R. W. Read, S. C. Grigg, A. J. Jamison and V. S. Campbell.

RUFUS PITTS, *Secretary*.

JACKSON COUNTY.

The Jackson County Medical Society met in Gainesboro on February 17 at 1:00 p. m. with the Vice-president, Dr. H. P. Loftis in the chair. Every member except one was present.

Clinics were brought before the society by Drs. McCoin, Reeves, White and Hix. A case of Tetanus was reported by Dr. L. R. Anderson. Dr. Fowler reported a case of Puerperal Eclampsia. Dr. Mabry reported a case of Double Pneumonia. Dr. Fowler read his retiring address as President of the Jackson County Medical Society, paying many beautiful compliments to the newly elected President, Dr. J. B. Hix. Dr. Fowler then read a paper on Influenza in which he reported quite a number of very interesting cases. The discussion on Dr. Fowler's paper opened by Dr. Reeves and followed by others.

It was moved and carried that Dr. Fowler's paper be published in the county paper. Dr. White was instructed to write Dr. Alexander, of Smith County, to read a paper to our society at its meeting in April.

In our last month's notice we failed to give Dr. Hix's remarks regarding Amoebic Dysentery correctly. In speaking of the treatment it should have been, "large doses of Bismuth by the mouth and enemas of normal salt solution or sterile water."

C. E. REEVES, *Secretary*.

The Johnson City and Washington County Medical Society met in regular session, March 6, 1913. In the absence of the President and Vice-president, Dr. West called the meeting to order. Minutes of the previous meeting were read and approved. Those in attendance were: Drs. Randall, Sells, Matthews, Dulaney, Kennedy, Broyles and Cox. Dr. Sherrill (colored), visitor.

Under clinical reports Dr. Matthews reported a case of acute uremia in an old gentleman, 70 years of age, in which death resulted, the attack coming on with a very severe headache followed by convulsions and unconsciousness lasting twenty-four hours, when patient died. Dr. Broyles reported further on a case of sympathetic ophthalmia, in which he had removed the blind eye of sixteen years standing. Patient improved but returned suffering with the good eye which the doctor relieved by the administration of salicylate of soda and instillations of atropine. Vision now 20-20. Dr. Broyles also reported a case of trachoma of ten years standing which he operated upon under general anaesthesia, scarification and brisk rubbing with brush and the use of 1-500 solution of Bichloride with good results.

Dr. Matthews presented an instructive and interesting paper on, "Some Remarks on Douches and Enemas," in which he entered into the variations of effects of cold and heat as applied in hydro-therapeutics; how applied and the use of same, and entered very freely into a description of the vaso-motor stimulus of such applications. The paper brought out a very lengthy and interesting discussion in which all participated.

Dr. West reported for the Board of Censors favoring the election of Dr. Kimzer, of Kingsport, to membership. On motion he was unanimously elected, without the formality of a ballot. The Committee on Board of Health asked for more time to report.

The Secretary wishes to report the findings in a formerly reported clinical case by Dr. Matthews, of an extra-uterine fibroid which after operation was found to be a case of extra-uterine pregnancy which had ruptured the tube of the left side, and was found walled off in Douglas' cul de sac by means of adhesions which made it

necessary to remove the left ovary and tube, also the appendix which had adhered to the right tube by old adhesions. The patient was doing splendidly with a temperature of 99 on March 7. (See February report for this case.)

Dr. Randall is essayist for April meeting (the first Thursday night), his subject being, "The Therapeutics of the Belladonna Group."

On motion Dr. Matthews and Dr. H. Miller were elected delegate and alternate respectively for the State Society meeting in April.

The active members of this society are those who attend the meetings and work as well for the betterment of our organization. Other members take notice and be with us. We would also like to have the co-operation of the non-affiliated doctors of this and adjoining unorganized counties.

J. W. Cox, *Secretary*.

DYER COUNTY.

The Dyer County Medical Society met Thursday, March 6, at 8:00 p. m. at the courthouse. In the absence of the President, Dr. Luther Edwards, who was unable to attend on account of sickness, Dr. J. W. Wynne presided. Dr. M. Goltman, of Memphis, read a very interesting paper; subject "Appendicitis Without Symptoms With a Report of Cases." Dr. T. C. Holloway, of Memphis, addressed the society on the subject of "Medical Organization," especially dwelling upon the object and purpose of the Southern Medical Association. His address was received with a great deal of enthusiasm.

Resolutions were read and adopted against "Fee Splitting." This method of practice was condemned in the severest of terms. We are exceedingly fortunate to know that our society is absolutely clear of this method. "Medical Defense" was discussed with much interest and our society is very much in favor of the House of Delegates adopting this provision. Dr. Wynne, in behalf of the society, thanked Drs. Goltman and Holloway for their interesting addresses and insisted upon an early return. He stated also that we should congratulate ourselves upon having one of the most beneficial meetings ever held in Dyer County.

O. DULANEY, *Secretary*.

JEFFERSON COUNTY.

The Jefferson County Medical Society met in the office of Dr. P. A. Tinsley, of Dandridge, at 1:30 p. m., March 4. The meeting was called to order by President J. H. Walker. The Secretary being absent Dr. Tinsley was appointed to take his place. Members in attendance were: Drs. D. H. McCarter, T. L. McCarter, Wm. E. Roberts, B. F. Brown and P. A. Tinsley. We were glad to have with us a former resident of Jefferson County, Dr. T. W. Gallion, who now resides in California.

Dr. T. L. McCarter delivered an address on "La Grippe," which was discussed by Drs. Tinsley, Brown, D. J. McCarter, Roberts and Walker. Drs. W. F. King and W. L. Tadlock were to have read papers at this meeting, but being unable to attend, their papers were carried over to our next meeting.

Subjects for our next meeting are as follows: The Anatomy of the Female Pelvis and Colles and Potts' Fractures.

The society adjourned at 3:00 p. m.

J. H. WALKER, *President*,

P. A. TINSLEY, *Secretary, Pro Tem*.

POLK COUNTY.

The Polk County Medical Society met in regular session in the office of Dr. L. E. Kimsey, of Ducktown, Saturday, March 1, at 1:30 p. m.

The regular order of business was taken up and disposed of. A motion was made by Dr. L. E. Kimsey and seconded by Dr. F. O. Geisler, that the society adopt the Constitution and By-Laws for County Societies as prepared by the Committee on Organization of the American Medical Association in 1911.

There being no other matters to come before the society adjournment was taken.

F. E. GEISLER, M. D., *Secretary*.

POLK COUNTY.

The Polk County Medical Society met in extra session at Ducktown, January 21, for the purpose of considering a Legislative Act.

A quorum being present, the following resolution was adopted:

Resolved, That the members of the Polk County Medical Society, of Polk County, Ten-

nessee, in extra session assembled, do and earnestly request our Representative and Senator in the Legislative body of the State, to use every means within their power to secure the passage of an Act, to further regulate the practice of medicine in the State, a proposed copy of such regulation being given below:

AN ACT TO PROTECT EMPLOYEES IN SELECTION OF
FAMILY PHYSICIAN.

SECTION 1.—Be it enacted by the General Assembly of the State of Tennessee, That it shall be unlawful for any manufacturer, firm, company or corporation, their agents, clerks or superintendents, of this state, to dictate, solicit, or in any manner interfere with any employee or laborer in their right to select their own family physician.

SEC. 2.—Be it further enacted, That it shall be unlawful for any manufacturer, firm, company or corporation, their agents, clerks, or superintendents, to retain or withhold or accept any part or portion of the wages due to such employee or laborer for the avowed purpose of paying the salary of any person claiming to be the "Company Doctor" or other physician employed by said employees.

SEC. 3.—Be it further enacted, That any agent, clerk or superintend of such manufacturers, firm, company or corporation violating the provisions of this Act shall be guilty of a misdemeanor, and upon conviction in any of the courts of this state having jurisdiction, shall be fined not less than twenty-five nor more than fifty dollars for each and every offense.

SEC. 4.—Be it further enacted, That all acts or laws in conflict with this act are hereby repealed.

SEC. 5.—Be it further enacted, That this act take effect from and after its passage, the public welfare requiring it.

While urging the passage of Vital Statistics Bill, the Medical Practice Act and the State Laboratory Bill, would it not be wise to file some official protest against false claimants, be they who they may? Concoctions, purporting

to cure consumption and asthma, are being heavily advertised and doctors who can't make a living in regular channels move to Tennessee and advertise, over their photo, to possess special ability to restore lost manhood and cure blood poison, as well as all other chronic diseases. How long is this disreputable condition of affairs going to be allowed to continue? When shall we begin to make an effort to wash this blot off the State's fair escutcheon?

DEATHS.

Dr. John L. Walker, of Paris, Tenn., died at the age of 66 years at his home, March 8.

Dr. S. D. Kemp, of Carthage, died suddenly at Nashville, in the Merchant's Hotel, March 10. He was 34 years of age.

BOOKS RECEIVED AND REVIEWED

GOLDEN RULES OF GYNECOLOGY. By George B. Norberg, M.D., Professor of Diseases of Women and Clinical Gynecology. University Medical College, Kansas City, Mo., Gynecologist to Kansas City General Hospital, Fellow and Ex-President Kansas City Academy of Medicine. 250 pages; 8 vo. Price, \$2.25. C. V. Mosby Co., St. Louis, U. S. A.

ORGANIC AND FUNCTIONAL NERVOUS DISEASES. A Text-Book of Neurology. By M. Allen Starr, M.D., Ph.D., LL.D., Sc.D., Professor of Neurology, College of Physicians and Surgeons, New York. Fourth edition, enlarged and thoroughly revised. Octavo, 970 pages, with 323 engravings and 30 plates in colors or monochrome. Cloth, \$6.00, net. Lea & Febiger, Philadelphia and New York, 1913.

PROGRESSIVE MEDICINE, a Quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College, Philadelphia, assisted by Leighton F. Appleman, M.D., Instructor in Therapeutics, Jefferson Medical College, Philadelphia. Volume XV., No. 1, March 1, 1913. Six dollars per annum. Lea & Febiger, Philadelphia.

MEN, MANNERS, AND MEDICINE. By Medicus Peregrinus, author of "Litora A'iena." W. M. Leonard, Publisher, Boston.

STATE MEMBERSHIP LIST

The Tennessee State Medical Association

A complete list of those who have paid Association dues for 1913 will be published in this and occasionally in succeeding numbers of the JOURNAL. The list published below includes only those whose dues were received by the Treasurer up to March 15. Errors in name or address should be reported to Secretary Bromberg at once to facilitate prompt correction.

This list, as published, constitutes the mailing list of the JOURNAL, and any member failing to receive his JOURNAL is requested to write for a duplicate copy. No name has been intentionally left off. If your name does not appear, be kind enough to notify the Secretary, so that he may make the correction.

BEDFORD COUNTY

NAME	ADDRESS	COUNTY
Coble, T. J.	Shelbyville	Bedford
Dyer, J. H.	Wartrace	Bedford
Freeman, J. K.	Bell Buckle	Bedford
Freeman, W. G.	Shelbyville	Bedford
Haggard, D. C.	Unionville	Bedford
Horton, G. E.	Wartrace	Bedford
Moody, G. W.	Shelbyville	Bedford
Moody, S. S.	Shelbyville	Bedford
Morton, Jas. L.	Shelbyville	Bedford
Orr, W. M.	Shelbyville	Bedford
Patton, E. W.	Shelbyville	Bedford
Pyatt, W. S.	Normandy	Bedford
Ray, T. R.	Shelbyville	Bedford
Reager, F. B.	Shelbyville	Bedford
Robinson, W. G.	Shelbyville, R. No. 3	Bedford
Sharp, W. T.	Shelbyville	Bedford
Shelton, R. E.	Flat Creek	Bedford
Taylor, J. P.	Haley	Bedford
Wood, T. H.	Bell Buckle	Bedford

CAMPBELL COUNTY.

Brown, G. B.	Elk Valley	Campbell
Delap, W. D.	LaFollette	Campbell
Gallagher, R. L.	Careyville	Campbell
Henderson, J. V.	LaFollette	Campbell
Heffernan, J. L.	Jellico	Campbell
Hawkins, John	Block	Campbell
Irish, W. R.	Jacksboro	Campbell
McClintock, F. A.	Newcomb	Campbell
Newman, A. T.	Jellico	Campbell
Queener, S. D.	Jacksboro	Campbell
Rose, J. L.	Jellico	Campbell
Robbins, H. M.	Jellico	Campbell
Scott, L. M.	Jellico	Campbell
Snyder, S. B.	Jellico	Campbell

CARROLL COUNTY

NAME	ADDRESS	COUNTY
Alexander, E. M.	McKenzie	Carroll
Alexander, H. L.	McKenzie	Carroll
Bryant, G. C.	McLemoresville	Carroll
Carpenter, J. D.	Lavernia	Carroll
Cawthon, S. C.	Buena Vista	Carroll
Clark, A. H.	Lavernia	Carroll
Collier, H. T.	McKenzie	Carroll
Compton, W. G.	West Port	Carroll
Cox, J. B.	Huntingdon	Carroll
Dodds, B. C.	Huntingdon	Carroll
Duncan, L. L.	Hollow Rock	Carroll
Gray, J. N.	Huntingdon	Carroll
Huffman, S. W.	McKenzie	Carroll
McCall, J. H.	Huntingdon	Carroll
McCall, J. W.	Huntingdon	Carroll
McGill, H. D.	Yuma, R. F. D.	Carroll
Murphy, L. D.	Buena Vista	Carroll
Williams, J. F.	Yuma	Carroll
Wright, W. M.	Huntingdon	Carroll

CUMBERLAND COUNTY

Fentress, S. J.	Bumpus Mills	Cumberland
Lewis, V. L.	Crossville	Cumberland
McCamy, W. R.	Crab Orchard	Cumberland
McClarney, A. J.	Crossville	Cumberland
Mitchell, E. W.	Crossville	Cumberland

DICKSON COUNTY

Scott, W. S.	Dickson	Dickson
Suggs, W. J.	Dickson	Dickson
Walker, W. W.	Dickson	Dickson
Weaver, Hartwell	Dickson	Dickson

GIBSON COUNTY.

Barker, W. J.	Trenton, R.F.D.	Gibson
Bennett, B. T.	Trenton	Gibson
Bryant, A. J.	Bradford	Gibson
Caldwell, B. D.	Milan	Gibson
Caldwell, T. E.	Milan	Gibson
Clopton, A. T.	Milan	Gibson
Cochran, T. N.	Trenton	Gibson
Dodds, G. W.	Trenton	Gibson
Donaldson, A. A.	Trenton, R.F.D.	Gibson
Hunt, R. H.	Humboldt	Gibson
Koffman, J. N.	Trenton, R.F.D.	Gibson
McRae, W. C.	Trenton	Gibson
Moore, J. C.	Trenton	Gibson
Medling, W. L.	Dyer	Gibson
Mathews, E. C.	Trenton	Gibson
Penn, B. S.	Humboldt	Gibson
Penn, G. W.	Humboldt	Gibson
Preston, J. H.	Humboldt	Gibson
Preston, W. F.	Humboldt	Gibson
Oliver, G. W.	Medina	Gibson
Rozelle, J. H.	Gibson	Gibson
Thompson, Sidney	Humboldt	Gibson
Tyree, C. E.	Trenton	Gibson
Williams, O. R.	Trenton, R.F.D.	Gibson
Wyatt, F. E.	Yorkville	Gibson

GILES COUNTY

NAME	ADDRESS	COUNTY
Abernathy, C. A.	Pulaski	Giles
Abernathy, W. D.	Pulaski	Giles
Allen, A. M.	Buford Station	Giles
Aymett, R. E.	Pisgah	Giles
Baugh, John C.	Elkton	Giles
Baugh, W. P.	Elkton	Giles
Blackburn, Jas. K.	Pulaski	Giles
Butler, Geo. D.	Pulaski	Giles
Cole, W. H.	Minor Hill	Giles
Copeland, W. F.	Campbellsville	Giles
Dean, Allen W.	Brick Church	Giles
Freeman, E. C.	Pulaski	Giles
Grimes, G. C.	Bodenham	Giles
Harris, John S.	Minor Hill	Giles
Herbert, Robt. N.	Aspen Hill	Giles
Lancaster, A. J.	Pulaski, R. F. D.	Giles
Lancaster, Geo. W.	Pulaski, R. F. D.	Giles
LaRue, Jas. A.	Pulaski	Giles
Lowry, Jas. B.	Lakeland, Fla.	Giles
May, J. P.	Aspen Hill	Giles
Mims, W. S.	Pulaski, R. F. D.	Giles
Neal, J. H.	Wales Station	Giles
Sumpter, E. R.	Pulaski	Giles
Waters, Guy S.	Stella	Giles
Whitfield, T. A.	Veto, Ala.	Giles
Woodard, B. H.	Elkton	Giles
Wright, C. R.	Pulaski	Giles

GREENE COUNTY

Britton, F. C.	Greeneville, R.F.D. 9	Greene
Brumley, S. T.	Greeneville, R.F.D.	Greene
Bailey, G. N.	Baileyton	Greene
Bright, W. M.	Rheatown	Greene
Brown, I. B.	Mosheim, R.F.D.	Greene
Borden, H. S.	Greeneville, R.F.D. 2	Greene
Bell, Jas. B.	Greeneville, R.F.D. 2	Greene
Blanton, M. A.	Baileyton, R.F. D. 1	Greene
Campbell, J. D.	Greeneville	Greene
Fox, C. P.	Greeneville	Greene
Hays, G. S.	Greeneville	Greene
Hawkins, W. H.	Greeneville	Greene
Huffaker, R. O.	Chucky City	Greene
Hughes, T. B.	Jeraldstown	Greene
Holt, J. S.	Midway	Greene
Jeffers, E. A.	Baileyton	Greene
Keller, R. D.	Persia	Greene
Lane, J. F.	Greeneville	Greene
McClellan, J. H.	Afton	Greene
Moore, J. C.	Jeraldstown	Greene
Newland, L. W.	Greeneville	Greene
Price, M. G.	Mosheim	Greene
Ruble, H. H.	Greeneville	Greene
Simpson, H. A.	Baileyton, R.F.D.	Greene
Taylor, Wm. B.	Greeneville	Greene
Taylor, H. M.	Greeneville	Greene
Weems, D. D.	Greeneville	Greene
Woolsey, Thos. H.	Greeneville, R.F.D.	Greene
Wilhoit, J. S. J.	Afton, R.F.D.	Greene
Woodyard, S. W.	Greeneville	Greene

HARDEMAN COUNTY

NAME	ADDRESS	COUNTY
Black, A. E.	Toone	Hardeman
Curry, G. B.	Toone	Hardeman
Dorris, H. E.	Bolivar	Hardeman
Frost, C. L.	Middleton	Hardeman
Galloway, David	Saulsbury	Hardeman
Goddard, W. L.	Saulsbury	Hardeman
Milstead, H. M.	Bolivar	Hardeman
Neely, J. J.	Bolivar	Hardeman
Siler, W. H.	Toone	Hardeman
Stewart, Walter	Bolivar	Hardeman
Sassar, J. D.	Middleton	Hardeman
Sassar, J. D., Sr.	Middleton	Hardeman
Tate, Robt. W.	Bolivar	Hardeman

HAYWOOD COUNTY

Allen, J. T.	Brownsville	Haywood
Chamber, Jno.	R. F. D., Brownsville	Haywood
Cooper, T. W.	Brownsville	Haywood
Edwards, J. L.	Brownsville	Haywood
Heard, F. C.	R. F. D., Brownsville	Haywood
Miller, W. R.	R. F. D., Brownville	Haywood
Mulherron, Earl	Nu Burh	Haywood
Mulherron, G. G.	Brownville	Haywood
Norvelle, J. C.	Brownsville	Haywood
Patton, J. S.	Brownsville	Haywood
Sorrelle, A. H.	Brownsville	Haywood
Seiver, J. H.	Brownsville	Haywood
Warren, J. W.	Forked Deer	Haywood
Whitelaw, W. H.	Brownsville	Haywood
Wilkerson, J. B.	Blanton	Haywood

HENDERSON COUNTY

Arnold, J. M.	Lexington	Henderson
Bolen, C. E.	Wildersville	Henderson
Brandon, G. A.	Lexington	Henderson
Brasher, G. W.	Sugar Tree	Henderson
Brazelton, S. H.	Sardis	Henderson
England, J. H.	Luray	Henderson
Graves, John F.	Juno	Henderson
Huntsman, W. F.	Lexington	Henderson
Hufstедler, A. G.	Parsons	Henderson
Johnson, C. H.	Lexington	Henderson
Keeton, J. T.	Sardis	Henderson
Keeton, W. B.	Scotts Hill	Henderson
McMillan, J. L.	Decaturville	Henderson
Parker, Sam'l. T.	Lexington	Henderson
Watson, W. T.	Lexington	Henderson
Whitaker, R. A.	Beacon	Henderson
Wyly, R. L.	Scotts Hill	Henderson

HENRY COUNTY.

Abernathy, G. T.	Paris	Henry
Clark, J. E.	Big Sandy	Henry
Freeman, J. T.	Big Sandy	Henry
Grainger, R. A.	Paris	Henry
McSwain, J. H.,	Paris	Henry
McSwain, O. A.	Paris	Henry
Pa:chal, A. F.	Crossland, Ky.	Henry
Petty, R. J.	Springville	Henry
Rodgers, C. W.,	Como	Henry

JACKSON COUNTY

NAME	ADDRESS	COUNTY
Anderson, L. R.	Granville, R. No. 1	Jackson
Baugh, H. L.	Gainesboro	Jackson
Clark, F. B.	Haydenburg, R.F.D.	Jackson
Conditt, J. T.	Defeated, R.F.D.	Jackson
Cornwell, F. O.	Gainesboro, R. No. 4	Jackson
Fowler, S. B.	Gainesboro	Jackson
Hix, J. B.	Gainesboro	Jackson
Loftis, H. P.	Gainesboro	Jackson
Mabry, E. W.	Gainesboro	Jackson
McCoin, N. M.	Gainesboro	Jackson
Quarles, J. D.	Whitleyville	Jackson
Reeves, C. E.	Gainesboro	Jackson

JEFFERSON COUNTY

Cline, B. E.	Straw Plains	Jefferson
Dukes, N. M.	Straw Plains	Jefferson
Huggins, J. I.	Dandridge	Jefferson
King, W. F.	Jefferson City	Jefferson
Lequire, D. G.	Tampico	Jefferson
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Griffin, R. W.	Tiptonville	Lake
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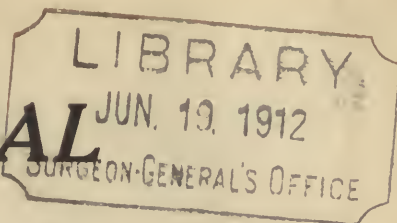
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Medullary Glyceride

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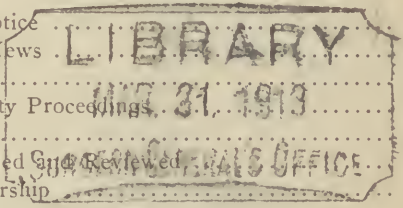
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